Cancer Data Pages

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Cancer Data Pages:
Cancer-Related Risk Factors and
Preventative Behaviors

December 2014

Introduction

Cancer is a group of more than 100 different diseases that often develop gradually as the result of a complex mix of lifestyle, environment, and genetic factors. People are at higher risk for many cancers due to factors related to personal behaviors such as: tobacco use, alcohol use, diet, physical inactivity, and overexposure to sunlight. Cancer becomes more survivable when found and treated early, which can be accomplished through the use of available cancer screening tests including those for lung, breast, cervical, and colorectal cancers.

The purpose of this report is to present cancer-related data from the Behavioral Risk Factor Surveillance System (BRFSS) and the Youth Risk Behavior Survey (YRBS) about cancer-related risk factors.
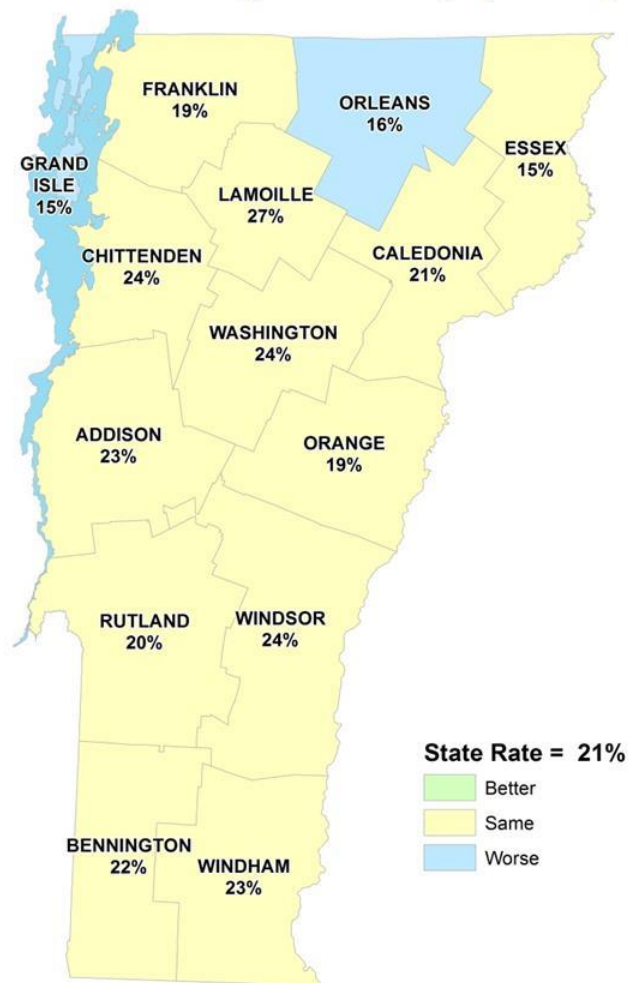
Note: Throughout this report, data comparisons presented as "higher," "lower," "larger," "smaller," "better," "worse," or as "significantly different" are all considered statistically significant differences.

Eating at Least Five Servings of Fruits and Vegetables

21% of Vermonters eat at least five servings of fruit and vegetables a day. This is higher than the national rate of 17%.

Vermonters living in Orleans and Grand Isle Counties had lower rates of eating five or more servings of fruit and vegetables daily (16% and 15% respectively) than the state as a whole. All other counties had similar rates of appropriate fruit and vegetable consumption.

Percent of Adults Eating At Least Five Servings of Fruit and Vegetables Daily by County

FRANKLIN 19%
ORLEANS 16%
ESSEX 15%
GRAND ISLE 15%
LAMOILLE 27%
CHITTENDEN 24%
CALEDONIA 21%
WASHINGTON 24%
ADDISON 23%
ORANGE 19%
RUTLAND 20%
WINDSOR 24%
BENNINGTON 22%
WINDHAM 23%

State Rate = 21%
- Better
- Same
- Worse

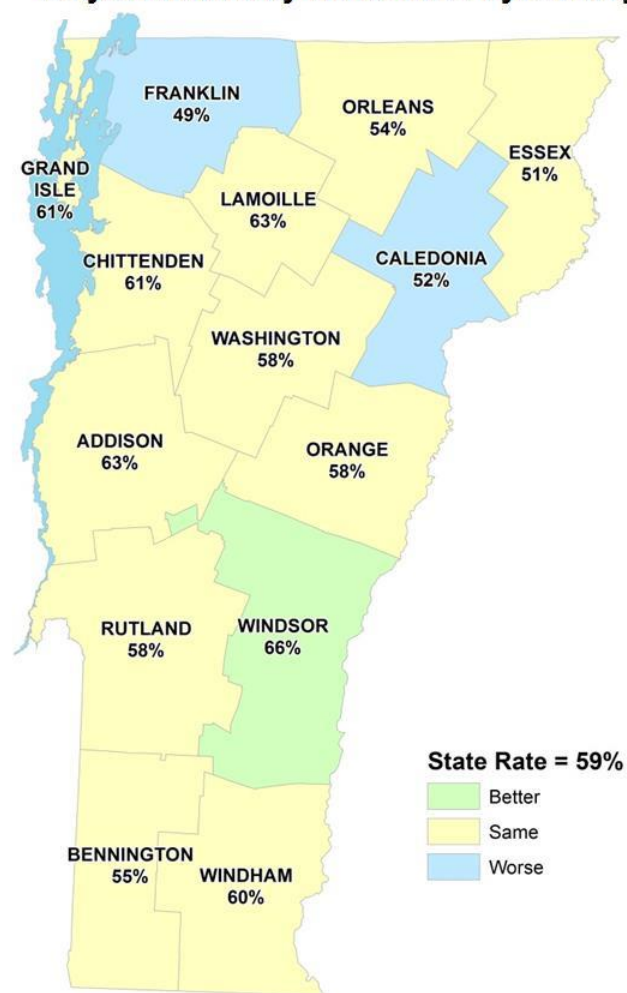*Notes:* All rates are age adjusted to the 2000 U.S. standard population.

Physical Activity

In 2008 the U.S. Department of Health and Human Services released the physical activity guidelines for Americans. These included both aerobic and muscle-strengthening guidelines for adults. The aerobic guidelines are: a minimum of 2.5 hours of moderate aerobic activity (i.e., brisk walking) weekly, or a minimum of 1.25 hours of vigorous aerobic activity (i.e., running) weekly.

In Vermont, 59% of the population met the recommended aerobic physical activity guidelines in 2013. That same year the U.S. had a lower percentage of the population (50%) that got adequate aerobic physical activity.

Within Vermont, people who lived in Caledonia and Franklin Counties were less likely to report meeting aerobic physical activity guidelines (52% and 49% respectively) than the state as a whole. However, people in Windsor County were more likely to report meeting the aerobic physical guidelines (66%) than the state overall. All other counties were similar to the state rate.

Percent of Adults that Met the Aerobic Physical Activity Guidelines by County

GRAND ISLE 61%
FRANKLIN 49%
ORLEANS 54%
ESSEX 51%
LAMOILLE 63%
CHITTENDEN 61%
CALEDONIA 52%
WASHINGTON 58%
ADDISON 63%
ORANGE 58%
RUTLAND 58%
WINDSOR 66%
BENNINGTON 55%
WINDHAM 60%

State Rate = 59%
- Better
- Same
- Worse

Notes: All rates are age adjusted to the 2000 U.S. standard population.

Cancer Related Risk Factors

Obesity

In the United States, 29% of adults 20 and older are obese. In Vermont in 2013, the rate was 25%, which is significantly lower than the national rate.

While most Vermont counties have obesity rates that are similar to the state as a whole, Chittenden County had a lower obesity rate (21%) and Rutland County had a higher obesity rate (32%).
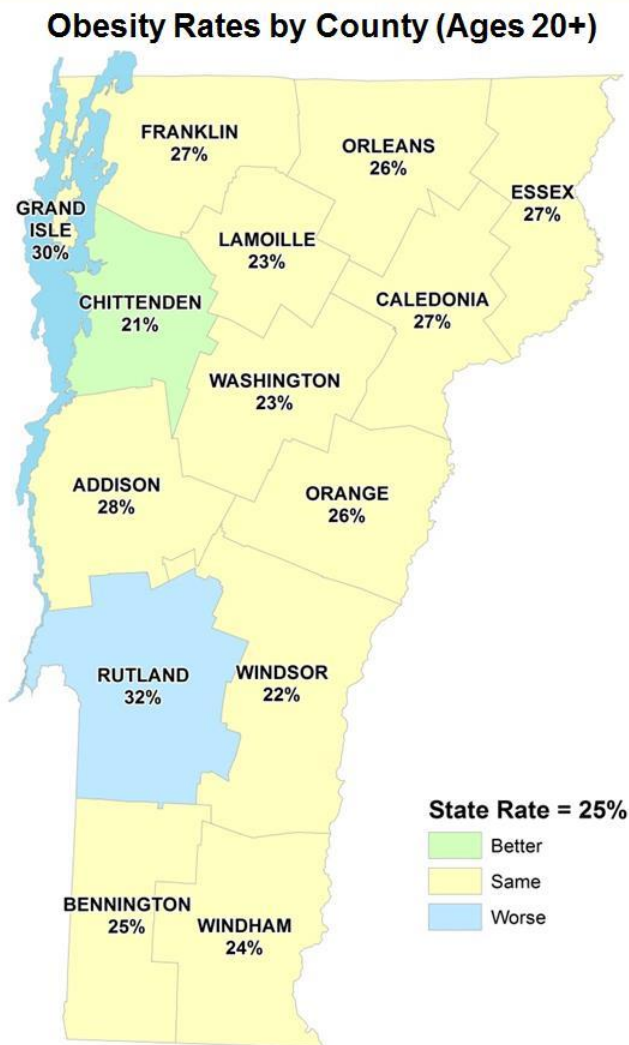
Obesity Rates by County (Ages 20+)

FRANKLIN 27%
ORLEANS 26%
ESSEX 27%
GRAND ISLE 30%
LAMOILLE 23%
CHITTENDEN 21%
CALEDONIA 27%
WASHINGTON 23%
ADDISON 28%
ORANGE 26%
RUTLAND 32%
WINDSOR 22%
BENNINGTON 25%
WINDHAM 24%

State Rate = 25%
- Better
- Same
- Worse

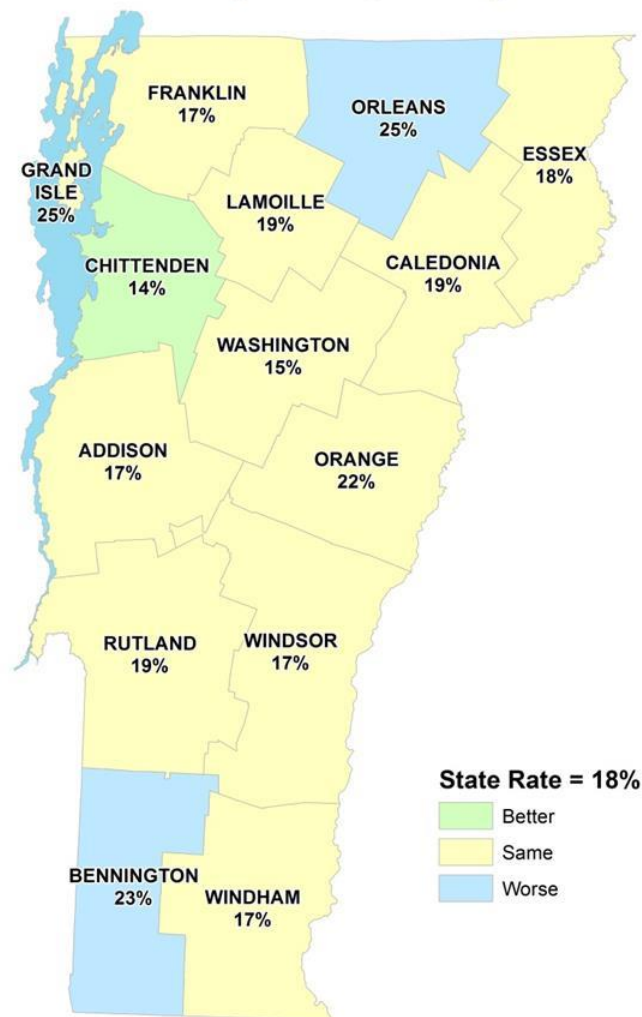*Notes:* All rates are age adjusted to the 2000 U.S. standard population.
Obesity rates include adults, age 20 and over, with a Body Mass Index (BMI) classified as obese (BMI of 30+)

Smoking

Eighteen percent of Vermonters reported being current smokers in 2013; this is the same as the national smoking rate in 2013. Within Vermont, Chittenden County had a lower smoking rate (14%) than the state, while Bennington and Orleans Counties had higher smoking rates (23% and 25%, respectively) than the state. The remaining counties had similar smoking rates to the state as a whole.

Among current smokers in Vermont, 56% reported quitting for at least one day in the past 12 months. This was similar to the national quit attempt rate of 59%.
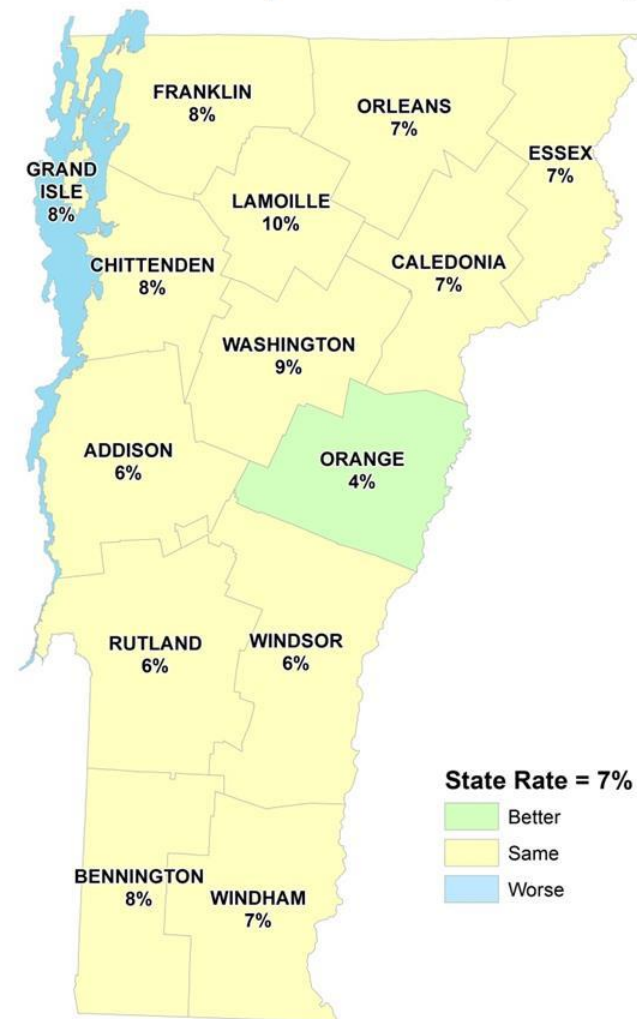
Smoking Rates by County

FRANKLIN
17%

ORLEANS
25%

ESSEX
18%

GRAND ISLE
25%

LAMOILLE
19%

CHITTENDEN
14%

CALEDONIA
19%

WASHINGTON
15%

ADDISON
17%

ORANGE
22%

RUTLAND
19%

WINDSOR
17%

BENNINGTON
23%

WINDHAM
17%

State Rate = 18%

- Better
- Same
- Worse

Notes: All rates are age adjusted to the 2000 U.S. standard population.

Heavy Alcohol Use

Heavy alcohol use is defined as: an average of more than two drinks per day for men, and an average of more than one drink per day for women. In Vermont, 7% of the adult population reported heavy drinking in 2013. This rate was higher than the 6% rate of heavy drinking reported nationwide.

Most counties in Vermont had similar rates of heavy drinking. However, Orange County had a lower rate of heavy drinking (4%) than the state as a whole.

Rates of Heavy Alcohol Use by County

FRANKLIN 8%
ORLEANS 7%
ESSEX 7%
GRAND ISLE 8%
LAMOILLE 10%
CHITTENDEN 8%
CALEDONIA 7%
WASHINGTON 9%
ADDISON 6%
ORANGE 4%
RUTLAND 6%
WINDSOR 6%
BENNINGTON 8%
WINDHAM 7%

State Rate = 7%
- Better
- Same
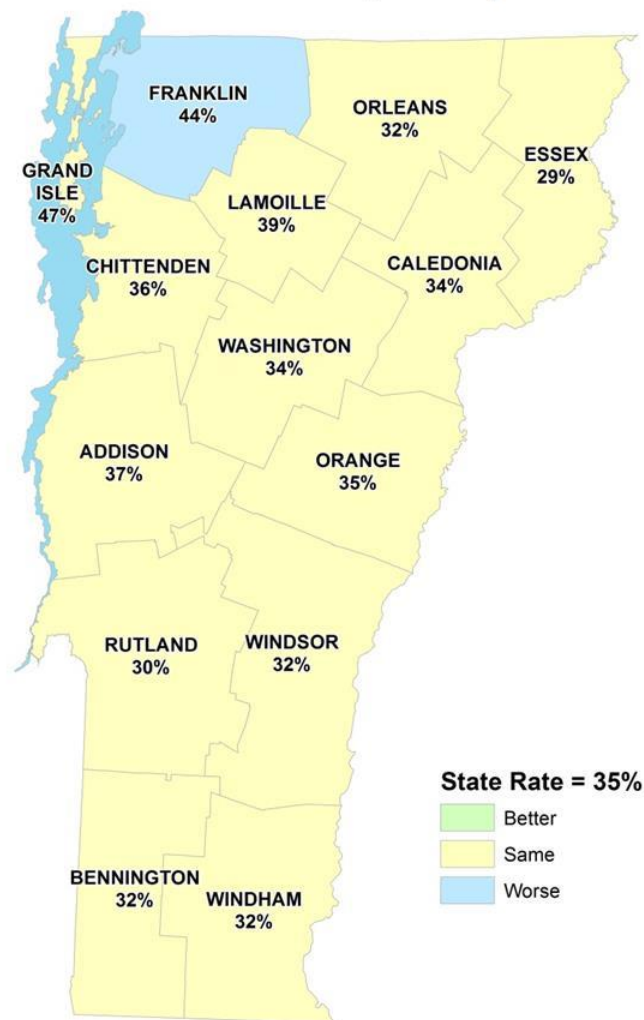- Worse

Cancer Related Risk Factors
Sun Exposure

Among Vermont adults, 35% reported having one or more sunburns in the past year.

Sunburn rates were similar to the state in all counties except Franklin County, which had a higher rate of sunburn (44%) than the state overall.

Sunburn Rate by County

FRANKLIN 44%
ORLEANS 32%
ESSEX 29%
GRAND ISLE 47%
LAMOILLE 39%
CALEDONIA 34%
CHITTENDEN 36%
WASHINGTON 34%
ADDISON 37%
ORANGE 35%
RUTLAND 30%
WINDSOR 32%
BENNINGTON 32%
WINDHAM 32%

State Rate = 35%
Better
Same
Worse

Sun Exposure

Vermonters aged 18-34 were more likely to have reported at least one sunburn in the last year than those aged 35 and older. The percentage of Vermonters reporting one or more sunburns decreased with increasing age group, starting at age 25.
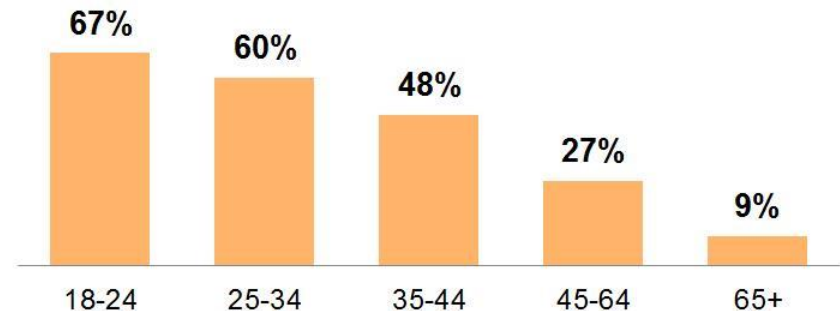
There were no differences in the percentage of Vermonters reporting one or more sunburns in the last year by education level (among those over 25 years of age) or relation to 250% of the Federal Poverty Level (data not shown).

Men and women were equally likely to have reported having zero, one, two, or three or more sunburns in the past year.

Sunburn in the past 12 Months:
Adults Aged 18+

■ Male ■ Female

	No Sunburn	1 Sunburn	2 Sunburns	3+ Sunburns
Male	63%	19%	9%	9%
Female	67%	18%	9%	7%
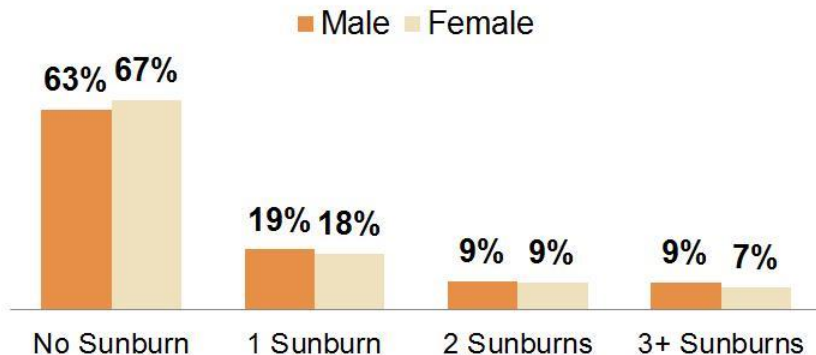
At Least One Sunburn in the past 12 Months
By Age

| 18-24	25-34	35-44	45-64	65+
67%	60%	48%	27%	9%

Sun Exposure

Overall, 10% of Vermont high school students reported using a tanning booth or sun lamp in the past year. Female high school students were four times as likely to have reported using a tanning booth or sun lamp (17%) compared to high school males (4%).

The percentage of high school students that reported using a tanning booth or sun lamp one or more times in the past year increased with each increasing grade from 9th grade through 12th grade.

**Used a Tanning Booth or Sun Lamp
in the past 12 Months
Youth Grades 9-12**

4% **17%**

Male   Female

**Used a Tanning Booth or Sun Lamp
in the past 12 Months: by Grade**

7%   **9%**   **12%**   **14%**

9th   10th   11th   12th
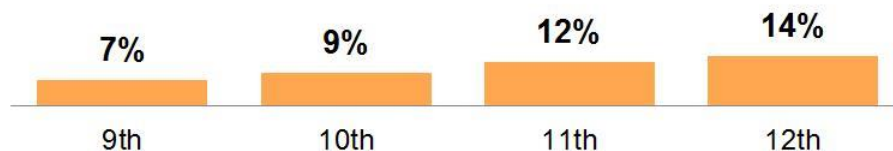
Sun Exposure

A smaller percentage of high school students (16%) reported wearing sunscreen always or most of the time than middle school students (27%). The percentage of middle school students that reported wearing sunscreen always or most of the time significantly declined with each increasing grade, from 6th grade through 8th grade, whereas high school students reported similar rates of use by grade.

In both middle and high school, male students were less likely than female students to have reported wearing sunscreen always or most of the time (middle school: males 21%, females 34%; high school: males 10%, females 23%).

Students That Use Sunscreen:
"Always" or "Most of the Time"
By Grade

Grade	Percentage
6th	37%
7th	26%
8th	21%
9th	17%
10th	17%
11th	16%
12th	16%
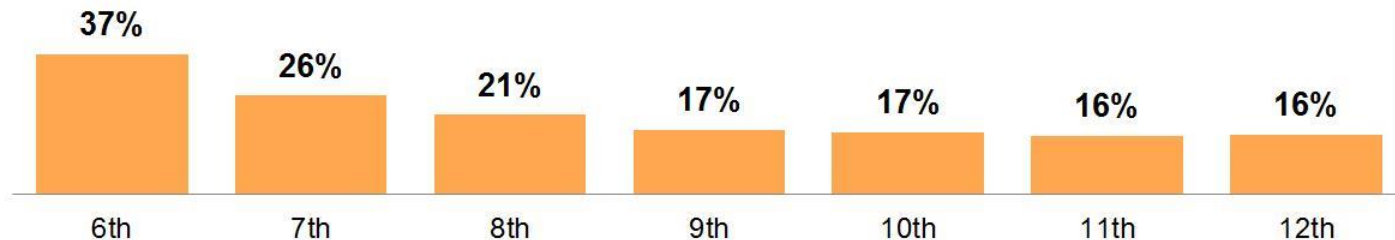
Note: Sunscreen use is defined as a wearing a sunscreen with SPF of 15 or higher when outside for more than an hour on a sunny day.

Data Notes

Behavioral Risk Factor Surveillance System (BRFSS): Vermont tracks risk behaviors using this telephone survey of adults. The results are used to plan, support, and evaluate health promotion and disease prevention programs. Since 1990, Vermont, along with the 49 other states and three territories, has participated in the BRFSS with the Centers for Disease Control and Prevention (CDC). Over 7,000 Vermonters are randomly and anonymously selected and called annually. An adult (18 or older) in the household is asked a uniform set of questions. The results are weighted to represent the adult population of the state.

Youth Risk Behavior Survey (YRBS): Every two years since 1993, the Department of Health's Division of Alcohol and Drug Abuse Program, and the Department of Education's Coordinated School Health Programs have sponsored the YRBS. The YRBS measures the prevalence of behaviors that contribute to the leading causes of death, disease, and injury among youth. The YRBS is part of a larger effort to help communities increase the "resiliency" of young people by reducing high risk behaviors and promoting healthy behaviors.
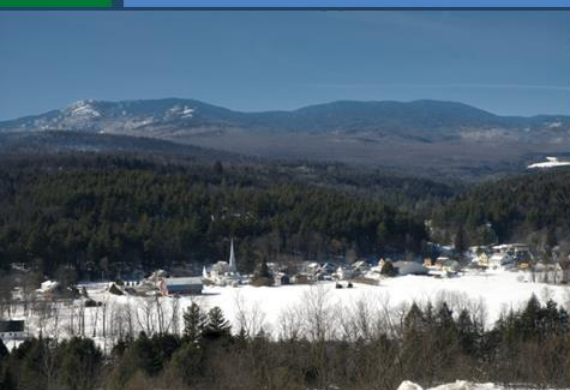
Health Insurance: Comparisons between those with and without health insurance are always limited to those below age 65 since all Americans above age 65 are eligible for health insurance via Medicare.

Education: Comparisons among those with different levels of education are always limited to those aged 25 and older since many adults under age 25 are in the process of obtaining additional education.

Federal poverty level (FPL) is a federal measure calculated from both annual household income and family size. FPL is used to determine eligibility for government assistance programs. People living below 250 FPL, for example, are still considered low income, often lacking sufficient income to meet basic needs.

Age Adjustment: Measures are adjusted for age only if they are Healthy Vermonters 2020 goals. Age adjustment groupings come from those determined by Healthy People 2020.

Cancer Data Pages: Cancer Screening

December 2014

Introduction

Cancer is a group of more than 100 different diseases that often develop gradually as the result of a complex mix of lifestyle, environment, and genetic factors. People are at higher risk for many cancers due to factors related to personal behaviors such as: tobacco use, alcohol use, diet, physical inactivity, and overexposure to sunlight. Cancer becomes more survivable when found and treated early, which can be accomplished through the use of available cancer screening tests including those for lung, breast, cervical, and colorectal cancers.

The purpose of this report is to present cancer-related data from the Behavioral Risk Factor Surveillance System (BRFSS) about cancer screening and associated disparities.

Note: Throughout this report, data comparisons presented as "higher," "lower," "larger," "smaller," "better," "worse," or as "significantly different" are all considered statistically significant differences.

Cancer Screening

Screening provides an opportunity to find and treat cancers early, leading to a decrease in overall cancer mortality. Lung, cervical, breast, and colorectal cancers all have established screening guidelines,[1] where the benefits of screening have been determined to outweigh any potential harms.

The following guideline definitions describe how screening data were analyzed in the following slides.

- Cervical Cancer Screening: The method for calculating screening rates was based on 2012 U.S. Preventative Services Task Force (USPSTF) recommendations.* These calculations include women aged 21-65 years who had a Pap test in the past 3 years and did not have a hysterectomy.

- Breast Cancer Screening: The method for calculating screening rates was based on 2009 USPSTF recommendations. These calculations include women aged 50-74 years who had a mammogram in the past 2 years.

- Colorectal Cancer Screening: The method for calculating screening rates was based on 2008 USPSTF recommendations. These calculations include men and women aged 50-75 years who had either a fecal occult blood test (FOBT) within one year; a sigmoidoscopy within 5 years AND a FOBT within 3 years; or a colonoscopy within 10 years.

- Lung Cancer Screening: The 2013 USPSTF guidelines recommend annual low-dose computed tomography for those aged 55-80 with a 30+ pack-year history of smoking (and smoke currently or within the last 15 years). However, there is currently no way to measure the percentage of these individuals that receive annual screening for lung cancer using the BRFSS.

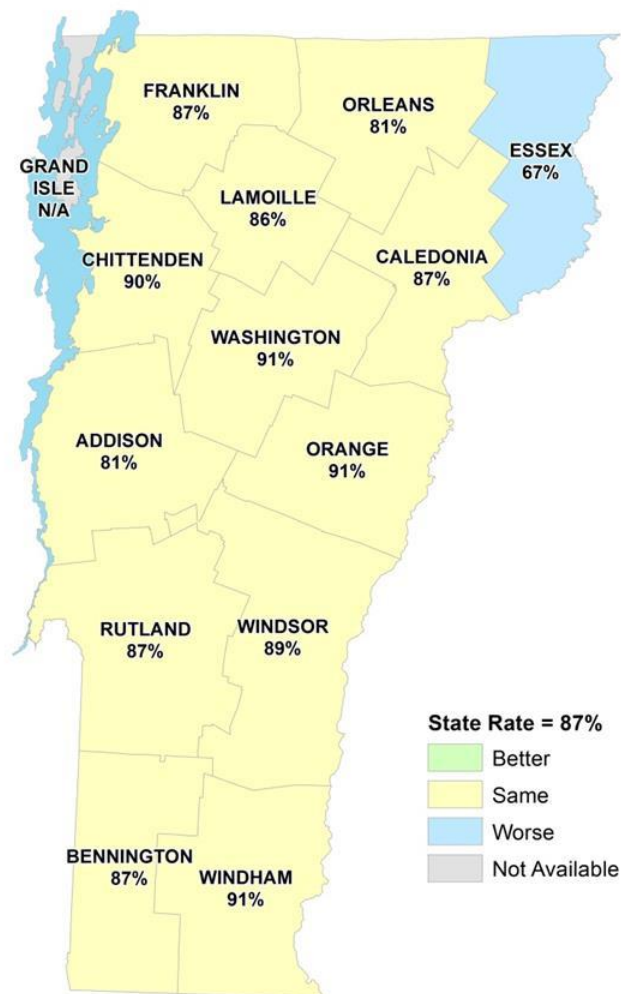*Please see Data Notes at the end of this report for more details.

Cervical Cancer Screening

National, Statewide, and County Rates

Nationally, the cervical cancer screening rate among women aged 21-65 was 84%, which was lower than the 87% screening rate in Vermont.

Most Vermont counties had similar cervical cancer screening rates. The exception was Essex County, where the screening rate (67%) was lower than Vermont overall.
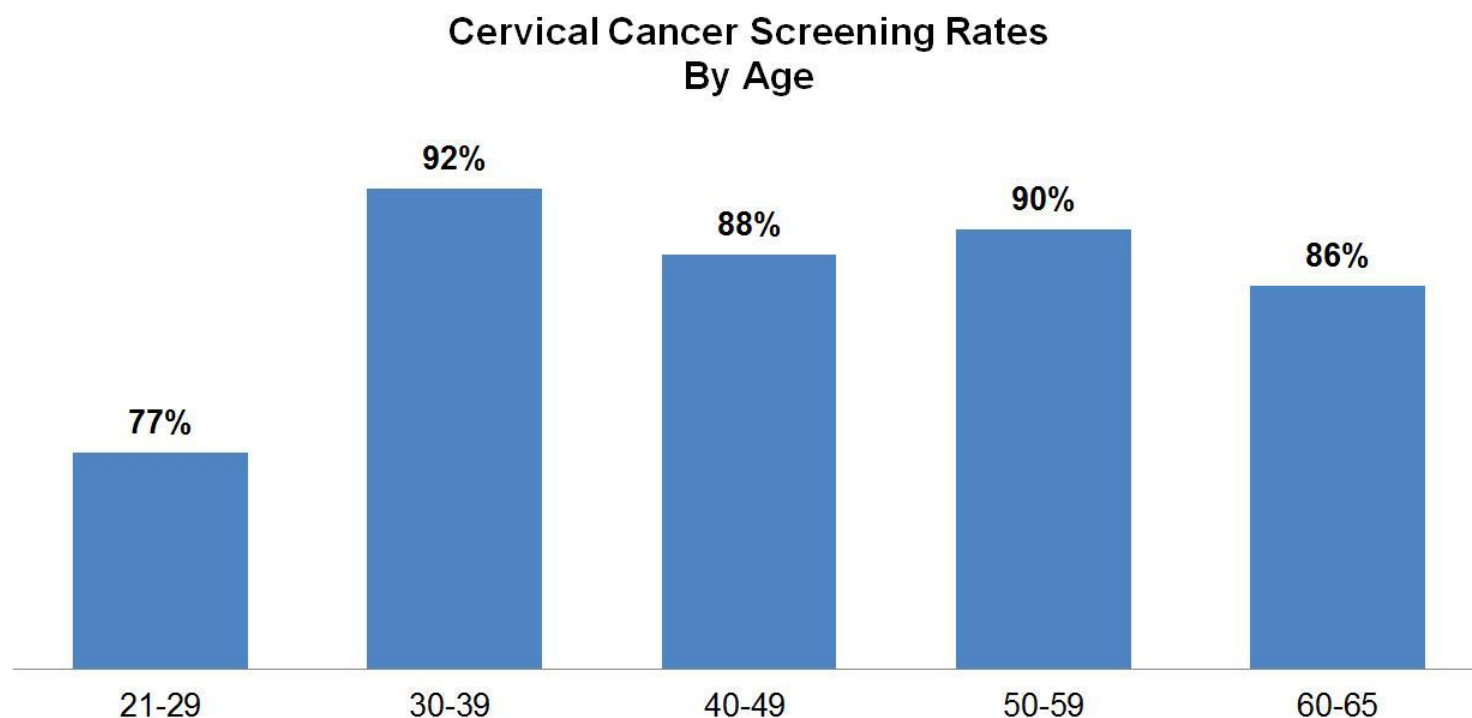
Cervical Cancer Screening Rates by County

FRANKLIN 87%

ORLEANS 81%

ESSEX 67%

GRAND ISLE N/A

LAMOILLE 86%

CHITTENDEN 90%

CALEDONIA 87%

WASHINGTON 91%

ADDISON 81%

ORANGE 91%

RUTLAND 87%

WINDSOR 89%

State Rate = 87%

■ Better
■ Same
■ Worse
■ Not Available

BENNINGTON 87%

WINDHAM 91%

Note: All rates are age adjusted to the 2000 U.S. standard population.
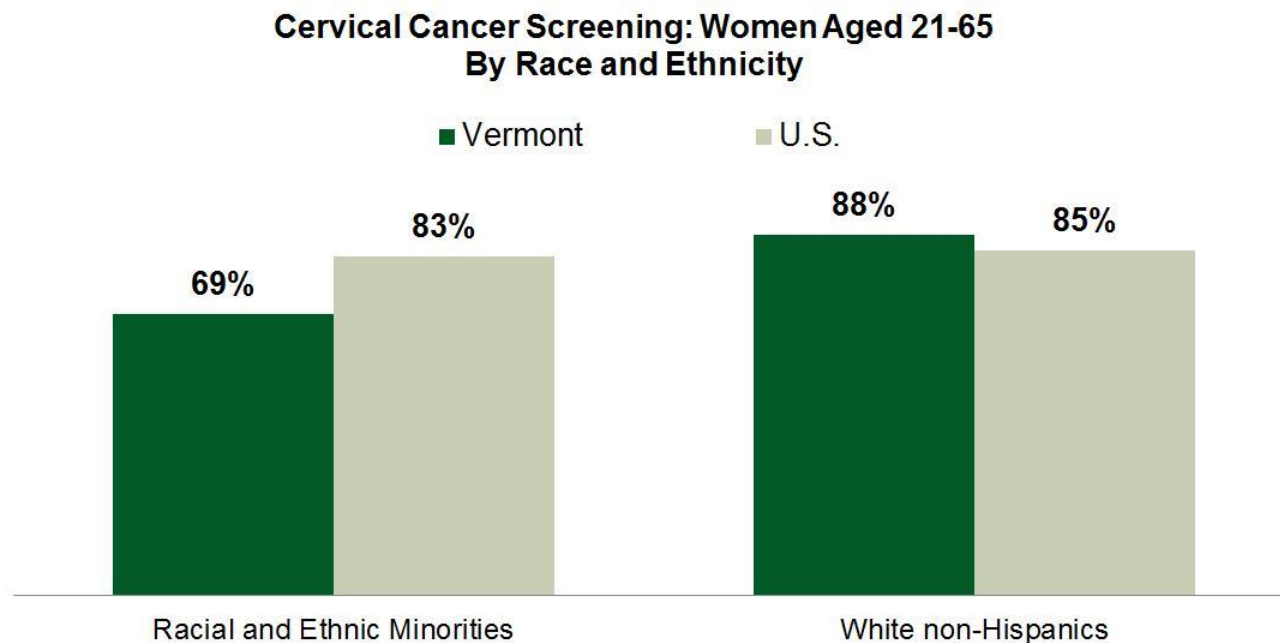N/A: The number of respondents in the sample is too small to report.

Age

A smaller percentage of Vermont women aged 21-29 received a Pap test in the past three years, compared to those aged 30-59. All other age groups within the USPSTF recommended screening age range were screened at similar rates.

**Cervical Cancer Screening Rates
By Age**

Racial and Ethnic Minorities

Racial and ethnic minorities in Vermont had a lower cervical cancer screening rate (69%) compared to the U.S. (83%). White non-Hispanics in Vermont, however, had a higher screening rate (88%) compared to the U.S. (85%).

In Vermont, the cervical cancer screening rate among racial and ethnic minorities (69%) was lower than among white non-Hispanics (88%).
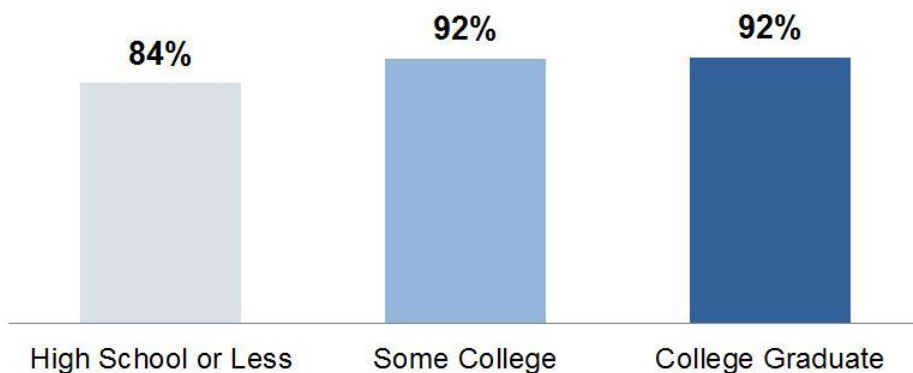
Cervical Cancer Screening: Women Aged 21-65
By Race and Ethnicity

■ Vermont   ■ U.S.

69%   83%   88%   85%

Racial and Ethnic Minorities   White non-Hispanics

Note: All rates are age adjusted to the 2000 U.S. standard population.
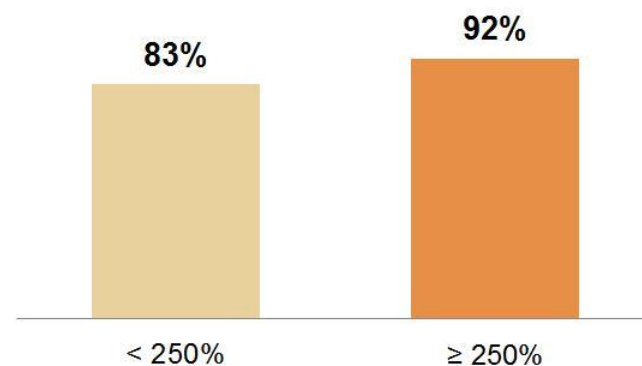
Education and Federal Poverty Level

In Vermont, the cervical cancer screening rate for women aged 25-65 was lower among those with a high school education or less than among those with a four-year college degree or that had some college education.

Vermont women aged 21-65 were less likely to have reported being screened if they were below 250% of the federal poverty level, compared to those at or above 250% of the federal poverty level.

Cervical Cancer Screening: Women Aged 25-65 By Educational Attainment

	84%	92%	92%
	High School or Less	Some College	College Graduate

Cervical Cancer Screening: Women Aged 21-65 By Federal Poverty Level

83%	92%
< 250%	≥ 250%

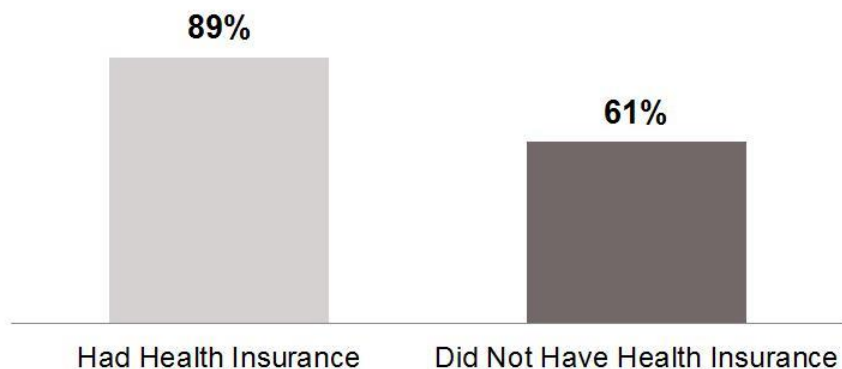*Notes:* All rates are age adjusted to the 2000 U.S. standard population.
Federal poverty level (FPL) is a federal measure calculated from both annual household income and family size. FPL is used to determine eligibility for government assistance programs. People living below 250% FPL, for example, are still considered low income, often lacking sufficient income to meet basic needs.

Health Care Access

Vermont women aged 21-64 were less likely to have reported receiving cervical cancer screening if they did not have health insurance than if they had health insurance.

Similarly, a smaller proportion of Vermont women (aged 21-65) that lacked a primary care provider were screened for cervical cancer compared to those who had a primary care provider.

Cervical Cancer Screening: Women Aged 21-64 By Health Insurance Status

89%

61%

Had health insurance   Did not have health insurance

Cervical Cancer Screening: Women Aged 21-65 By Primary Care Provider
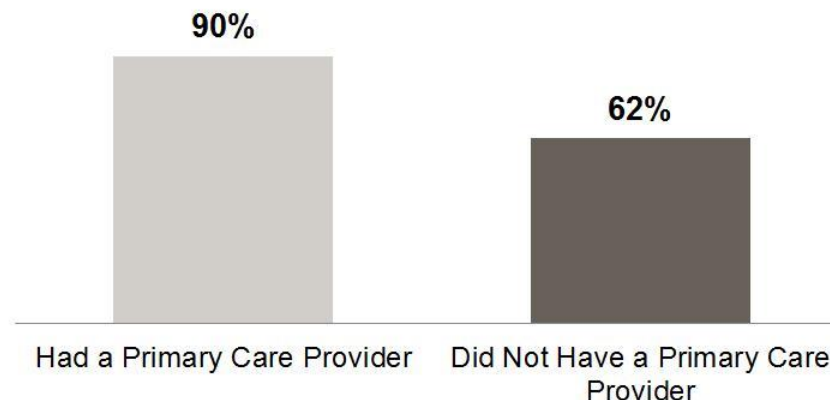
90%

62%

Had a primary care provider   Did not have a primary care provider

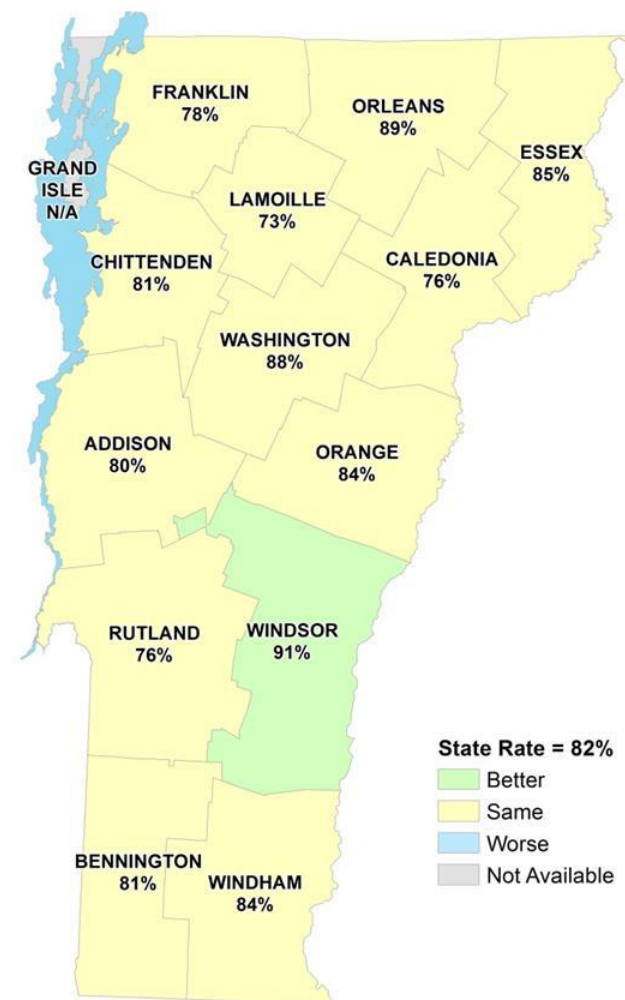*Note:* All rates are age adjusted to the 2000 U.S. standard population.

Breast Cancer Screening

National, Statewide, and County Rates

Nationally, the breast cancer screening rate among women aged 50-74 years was 79%. Vermont's screening rate of 82% is better than the national rate.

Compared to the overall screening rate in Vermont, most breast cancer screening rates by county were similar. The one exception was Windsor County, which had a higher screening rate of 91%.
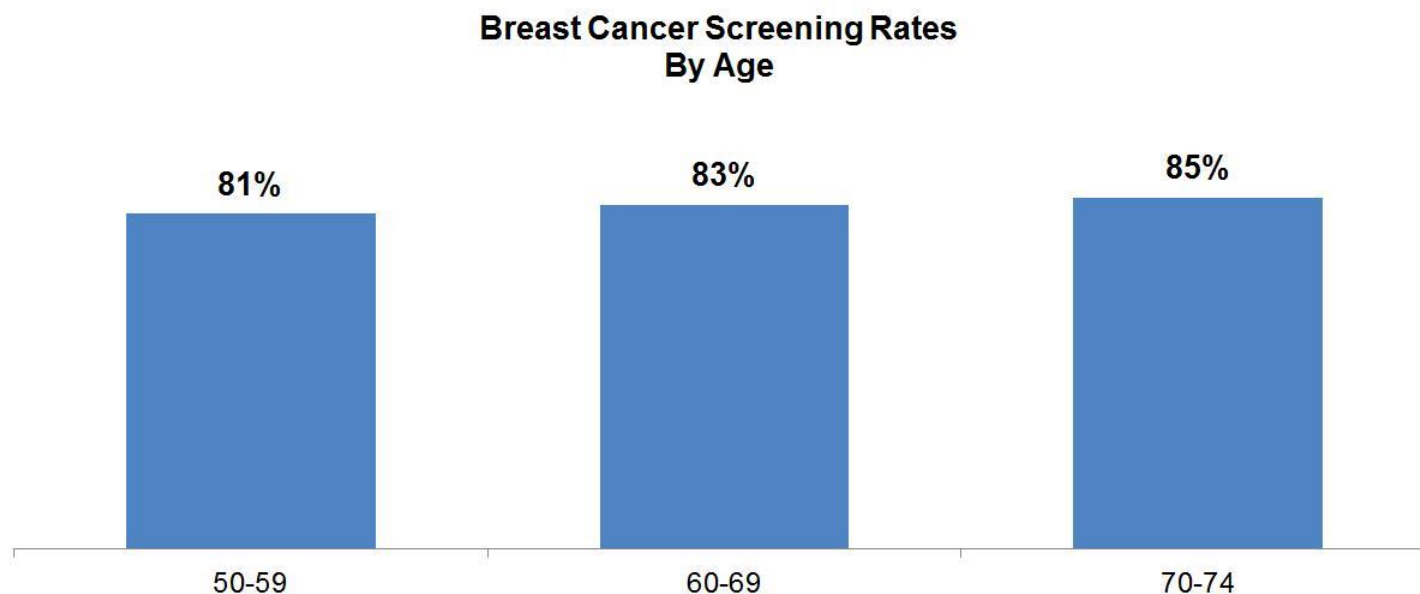
Breast Cancer Screening Rates by County

FRANKLIN 78%
ORLEANS 89%
ESSEX 85%
GRAND ISLE N/A
LAMOILLE 73%
CHITTENDEN 81%
CALEDONIA 76%
WASHINGTON 88%
ADDISON 80%
ORANGE 84%
RUTLAND 76%
WINDSOR 91%
BENNINGTON 81%
WINDHAM 84%

State Rate = 82%
Better
Same
Worse
Not Available

Note: All rates are age adjusted to the 2000 U.S. standard population.
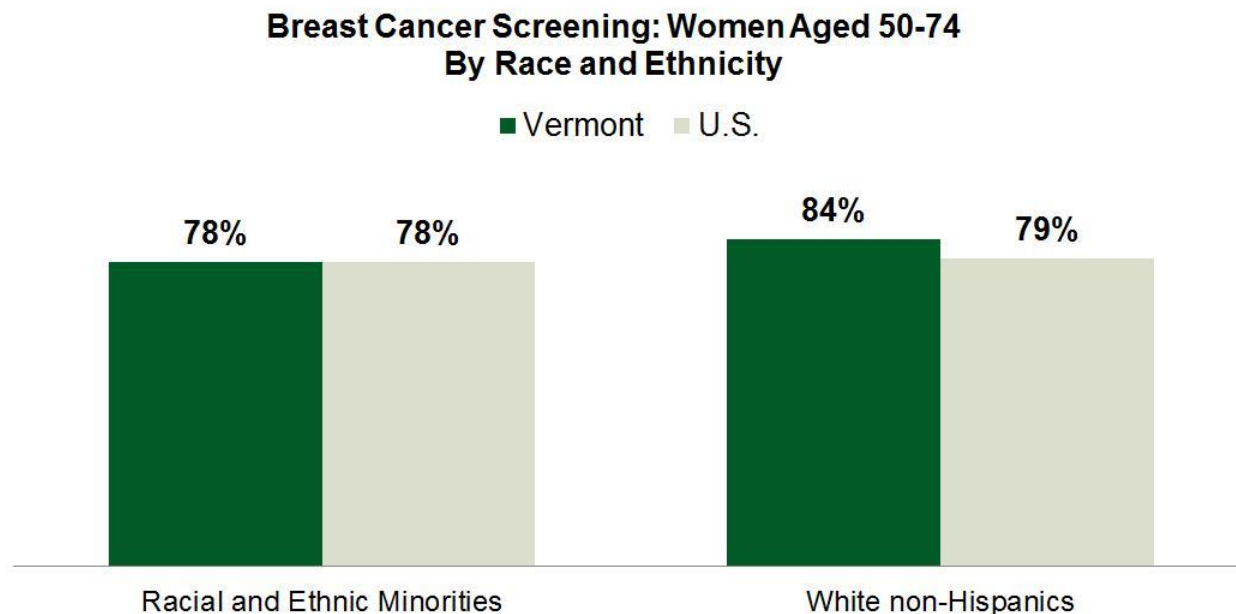N/A: The number of respondents in the sample is too small to report.

Age

There were no differences in breast cancer screening rates between Vermont women of different age groups within the USPSTF recommended screening age range.

**Breast Cancer Screening Rates
By Age**

Breast Cancer Screening
Racial and Ethnic Minorities

Racial and ethnic minorities in Vermont had similar breast cancer screening rates compared to racial and ethnic minorities nationally (78% for both). White non-Hispanics in Vermont, however, had a greater screening rate (84%) compared to white non-Hispanics nationally (79%).

In Vermont, breast cancer screening rates were statistically similar when comparing racial and ethnic minorities (78%) and white non-Hispanics (84%).
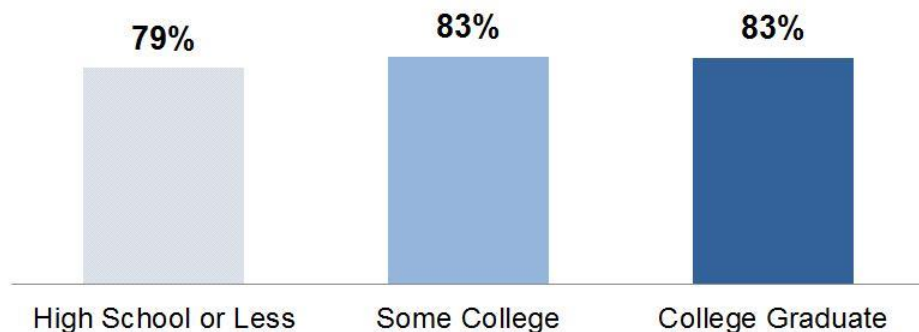
**Breast Cancer Screening: Women Aged 50-74
By Race and Ethnicity**

■ Vermont ■ U.S.

78%	78%	
84%	79%	

Racial and Ethnic Minorities   White non-Hispanics

Note: All rates are age adjusted to the 2000 U.S. standard population.

Breast Cancer Screening
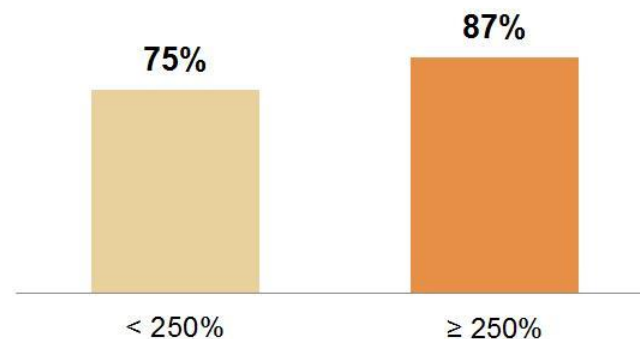# Education and Federal Poverty Level

At all levels of educational attainment, a similar percentage of Vermont women met breast cancer screening guidelines.

The breast cancer screening rate was lower, however, among those below 250% of the federal poverty level compared to those at or above 250% of the federal poverty level.

Breast Cancer Screening: Women Aged 50-74 By Educational Attainment

79% — High School or Less
83% — Some College
83% — College Graduate

Breast Cancer Screening: Women Aged 50-74 By Federal Poverty Level

75% — < 250%
87% — ≥ 250%

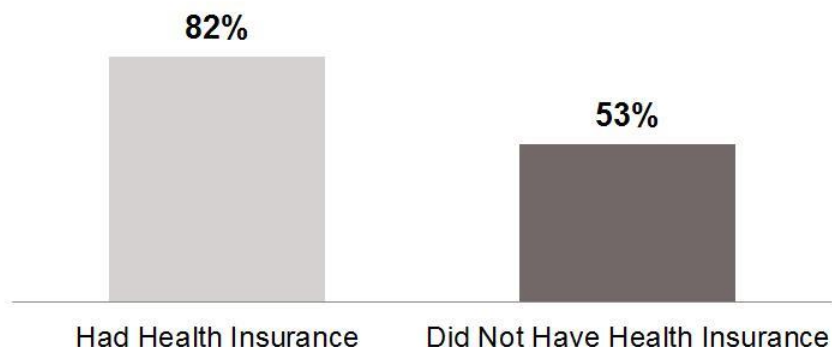*Notes:* All rates are age adjusted to the 2000 U.S. standard population.
Federal poverty level (FPL) is a federal measure calculated from both annual household income and family size. FPL is used to determine eligibility for government assistance programs. People living below 250% FPL, for example, are still considered low income, often lacking sufficient income to meet basic needs.
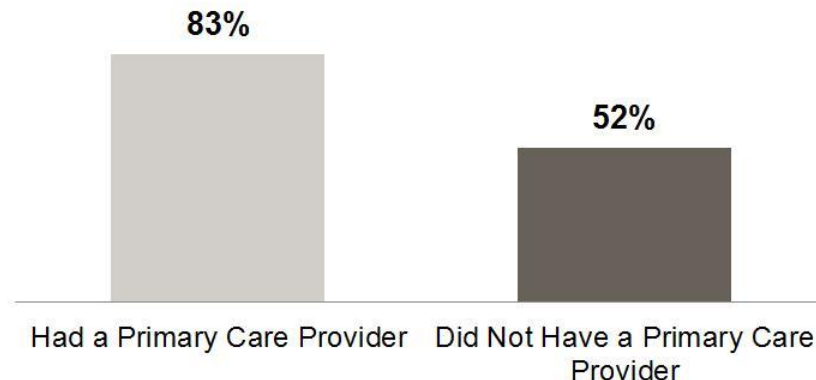
Breast Cancer Screening
Health Care Access

Vermont women aged 50-64 were less likely to have reported being screened for breast cancer if they did not have health insurance than those who had health insurance.

Similarly, Vermont women aged 50-74 were less likely to have reported being screened for breast cancer if they did not have a primary care provider compared to those with a primary care provider.

Breast Cancer Screening: Women Aged 50-64
By Health Insurance Status

82%

53%

Had Health Insurance   Did Not Have Health Insurance

Breast Cancer Screening: Women Aged 50-74
By Primary Care Provider

83%

52%

Had a Primary Care Provider   Did Not Have a Primary Care Provider

Note: All rates are age adjusted to the 2000 U.S. standard population.

Colorectal Cancer Screening

Note: Data for colorectal cancer screening are presented among those who met the screening guidelines overall and by the specific screening test types (i.e. colonoscopy and fecal occult blood test (FOBT)).
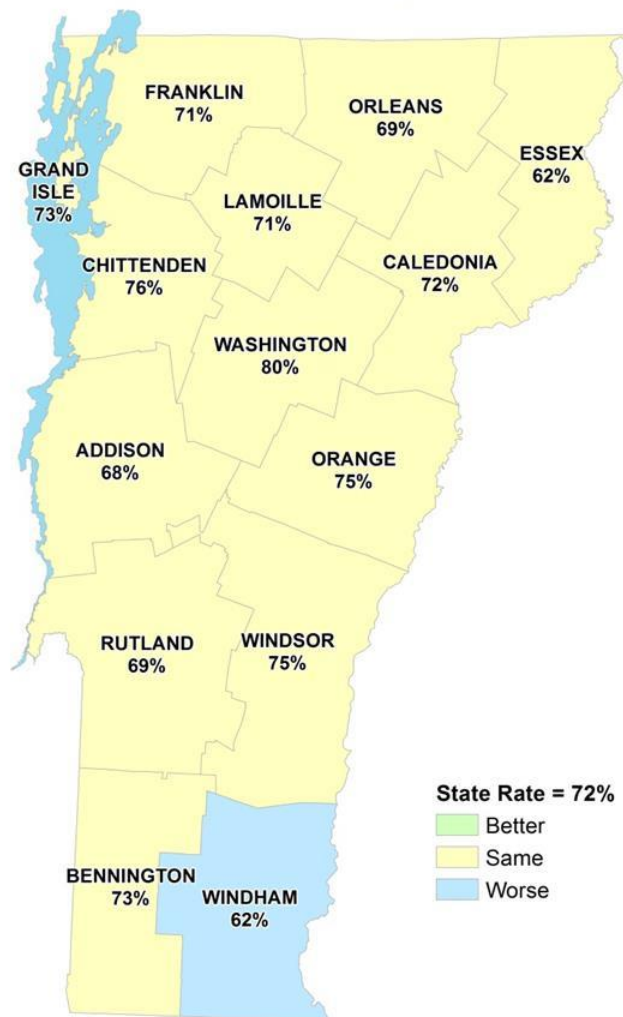
National, Statewide, and County Rates

Nationally, the colorectal cancer screening rate among men and women aged 50-75 years is 66%. Vermont had a better screening rate of 72%.

When broken down by the specific colorectal cancer screening tests, of the men and women aged 50-75, 8% had a FOBT in the past year, less than 1% had a sigmoidoscopy in the past five years *and* a FOBT in the past three years, and 70% had a colonoscopy in the past 10 years.

Compared to the overall screening rate in Vermont, county screening rates were similar, except in Windham County, which had a lower screening rate of 62%. Colorectal cancer screening test type by county cannot be analyzed as the numbers are too small for accurate evaluation.
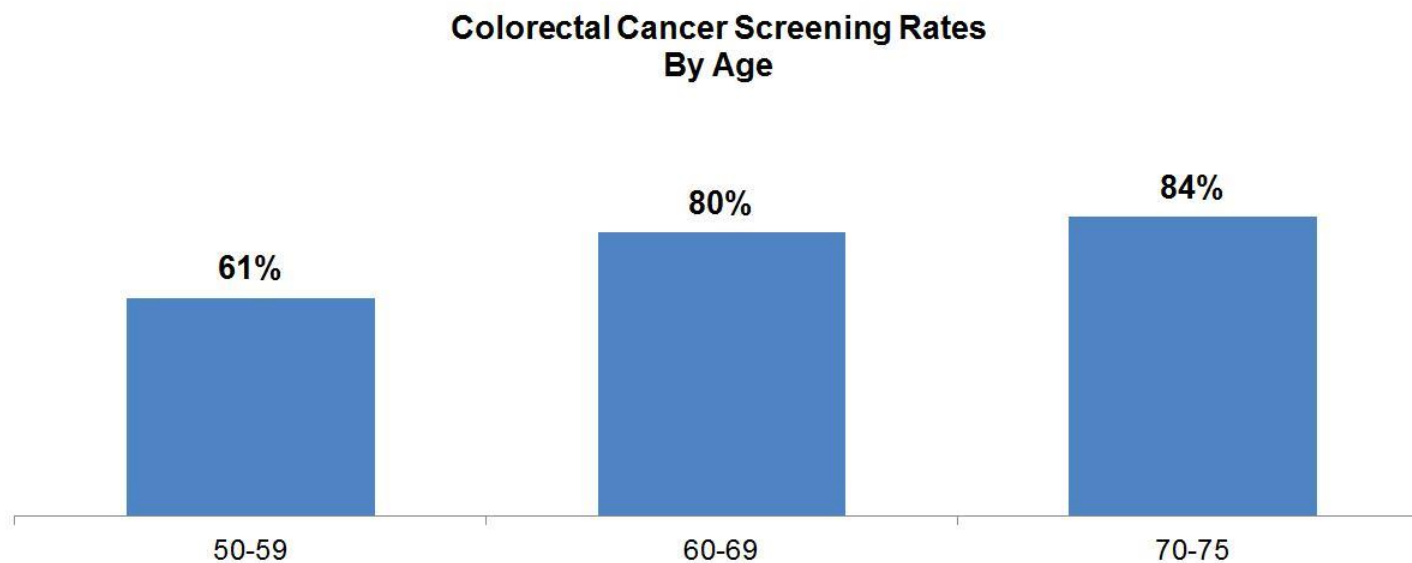
Colorectal Cancer Screening Rates by County

FRANKLIN 71%
ORLEANS 69%
ESSEX 62%
GRAND ISLE 73%
LAMOILLE 71%
CHITTENDEN 76%
CALEDONIA 72%
WASHINGTON 80%
ADDISON 68%
ORANGE 75%
RUTLAND 69%
WINDSOR 75%
BENNINGTON 73%
WINDHAM 62%

State Rate = 72%
Better
Same
Worse

Note: All rates are age adjusted to the 2000 U.S. standard population.
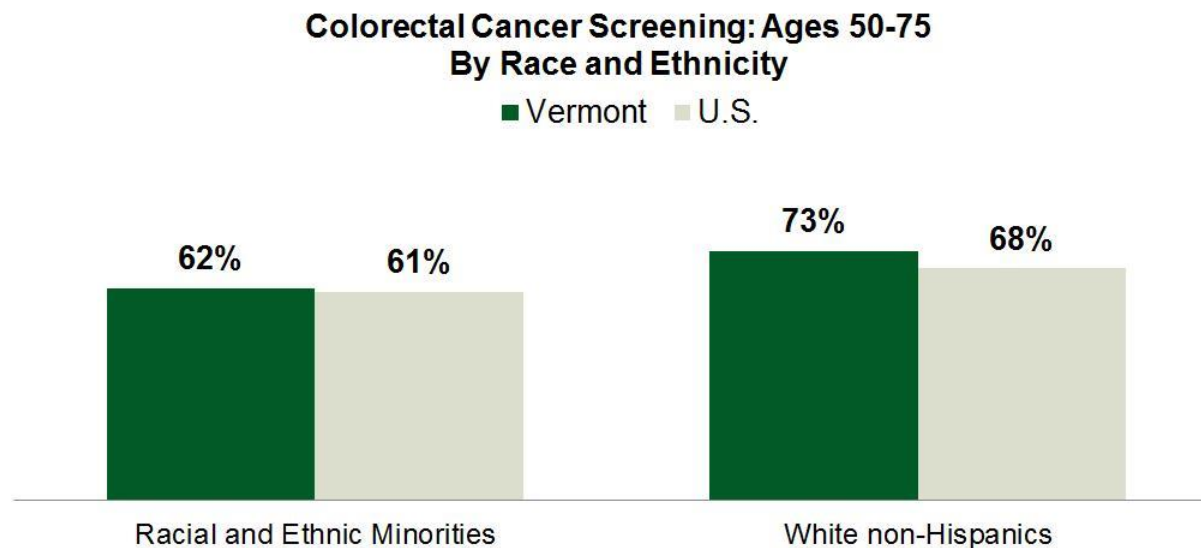
Colorectal Cancer Screening
Age

A smaller percentage of Vermont men and women aged 50-59 were screened for colorectal cancer compared to those aged 60-75. The USPSTF recommends colorectal cancer screening for all men and women aged 50-75.

**Colorectal Cancer Screening Rates
By Age**

Racial and Ethnic Minorities

Racial and ethnic minorities in Vermont did not have a different colorectal cancer screening rate (62%) compared to the U.S. (61%). However, white non-Hispanics in Vermont had a higher screening rate (73%) than the U.S. (68%).

In Vermont, colorectal cancer screening rates were statistically similar when comparing racial and ethnic minorities (62%) and white non-Hispanics (73%).
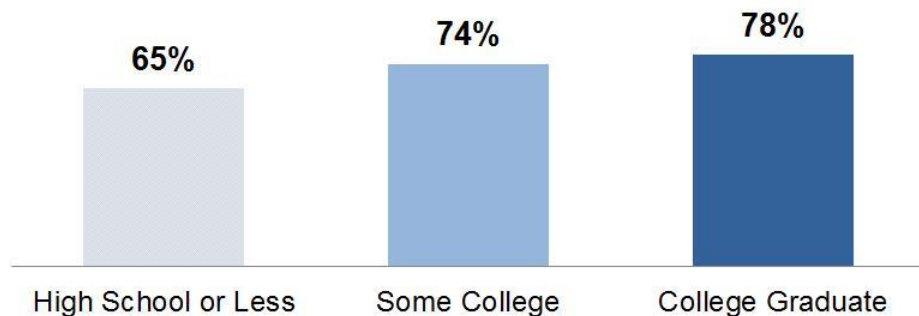
Colorectal Cancer Screening: Ages 50-75
By Race and Ethnicity
■ Vermont ■ U.S.

Note: All rates are age adjusted to the 2000 U.S. standard population.
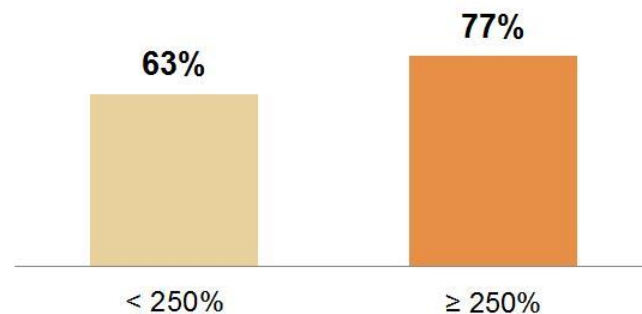
Education and Federal Poverty Level

A smaller percentage of Vermonters with a high school diploma or less met the colorectal cancer screening guidelines, compared to those who had some college or were college graduates.

The colorectal cancer screening rate was also lower among those at less than 250% of the federal poverty level compared to those at or above 250% of the federal poverty level.

Colorectal Cancer Screening: Ages 50-75
By Educational Attainment

65% — High School or Less
74% — Some College
78% — College Graduate

Colorectal Cancer Screening:
Ages 50-75
By Federal Poverty Level

63% — < 250%
77% — ≥ 250%

Notes: All rates are age adjusted to the 2000 U.S. standard population.
Federal poverty level (FPL) is a federal measure calculated from both annual household income and family size. FPL is used to determine eligibility for government assistance programs. People living below 250% FPL, for example, are still considered low income, often lacking sufficient income to meet basic needs.
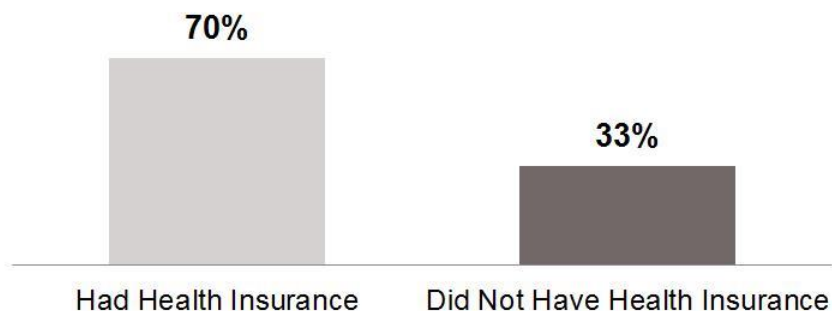
Colorectal Cancer Screening
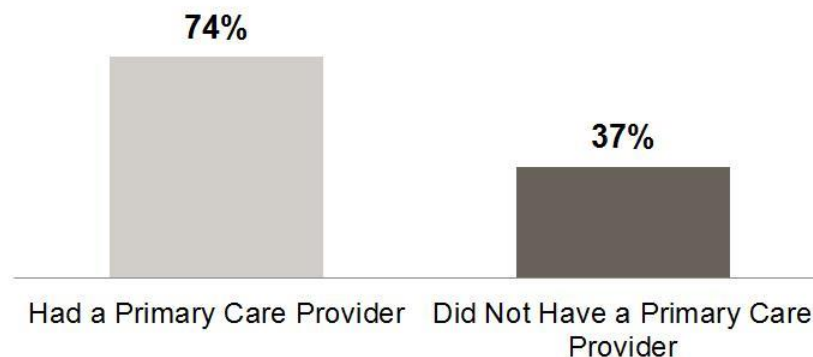# Health Care Access

Among Vermonters aged 50-64, the colorectal cancer screening rate was lower among those without health insurance than those with health insurance.

The colorectal cancer screening rate was also lower among those aged 50-75 that did not have a primary care provider, compared to those that did.

Colorectal Cancer Screening: Ages 50-64 By Health Insurance Status

70%
Had Health Insurance

33%
Did Not Have Health Insurance

Colorectal Cancer Screening: Ages 50-75 By Primary Care Provider

74%
Had a Primary Care Provider

37%
Did Not Have a Primary Care Provider

Note: All rates are age adjusted to the 2000 U.S. standard population.

Colorectal Cancer Screening

Annual Fecal Occult Blood Test by Education and Federal Poverty Level

A higher percentage of Vermont men and women aged 50-75 years with a high school degree or less had a fecal occult blood test (FOBT) in the past year than those with a college degree.

FOBT screening rates were statistically similar among people below 250% of the federal poverty level as compared to those at or above 250% of the federal poverty level.

FOBT in Past Year: Ages 50-75
By Educational Attainment
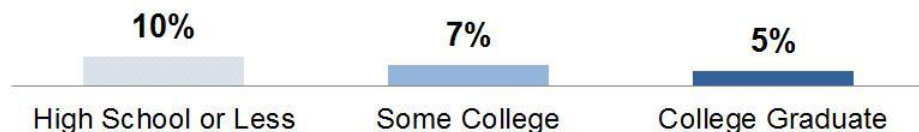
FOBT in Past Year: Ages 50-75
By Federal Poverty Level

10%	7%	5%		11%	7%
High School or Less	Some College	College Graduate		< 250%	≥ 250%

Notes: All rates are age adjusted to the 2000 U.S. standard population.
Federal poverty level (FPL) is a federal measure calculated from both annual household income and family size. FPL is used to determine eligibility for government assistance programs. People living below 250% FPL, for example, are still considered low income, often lacking sufficient income to meet basic needs.

Annual Fecal Occult Blood Test by Health Insurance Status

The percentage of Vermonters under age 65 who had a fecal occult blood test (FOBT) in the past year was similar between those insured and those uninsured.

The number of respondents in 2012 was too small to compare use of FOBT between those with and without a primary care provider.

FOBT in Past Year: Ages 50-64
By Health Insurance Status

6%

4%

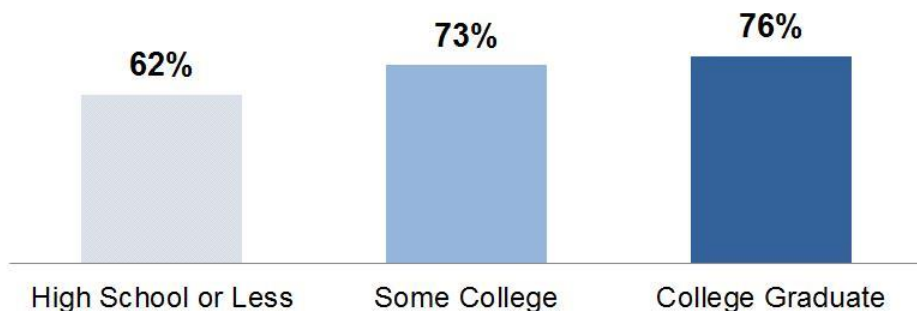Had Health Insurance   Did Not Have Health Insurance

Note: All rates are age adjusted to the 2000 U.S. standard population.

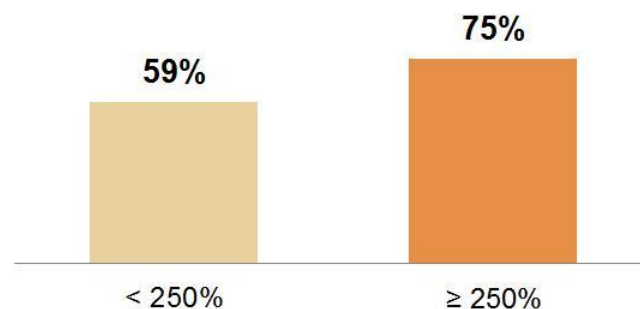# Colonoscopy in Past 10 Years by Education and Federal Poverty Level

A smaller percentage of Vermonters with a high school diploma or less education reported having a colonoscopy in the past 10 years compared to those with some college or a college degree.

Those below 250% of the federal poverty level were less likely to have reported having had a colonoscopy in the past 10 years, compared to those at or above 250% of the federal poverty level.

Colonoscopy in Past 10 Years: Ages 50-75
By Educational Attainment

High School or Less	Some College	College Graduate
62%	73%	76%

Colonoscopy in Past 10 Years: Ages 50-75
By Federal Poverty Level

< 250%	≥ 250%
59%	75%

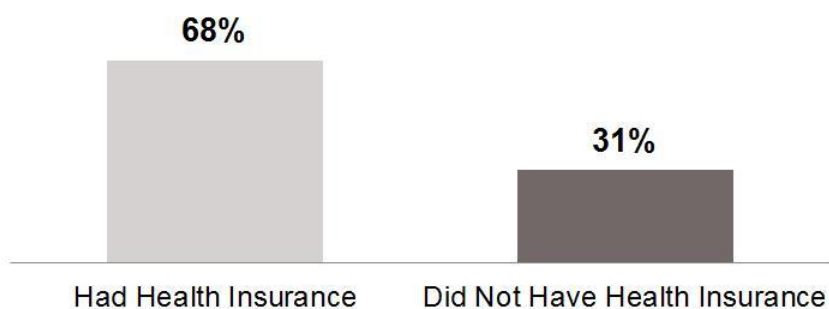*Notes:* All rates are age adjusted to the 2000 U.S. standard population.
Federal poverty level (FPL) is a federal measure calculated from both annual household income and family size. FPL is used to determine eligibility for government assistance programs. People living below 250% FPL, for example, are still considered low income, often lacking sufficient income to meet basic needs.

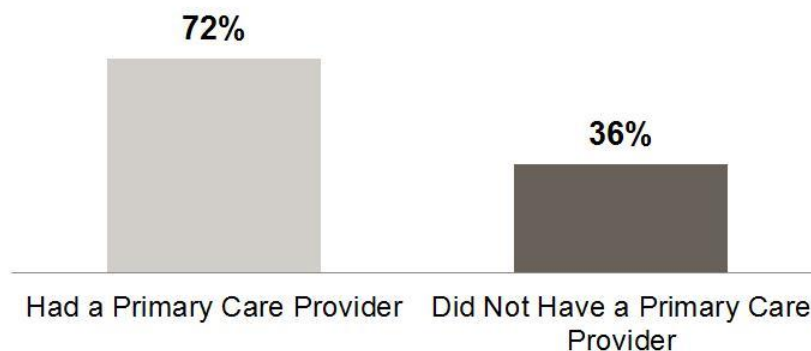# Colonoscopy in Past 10 Years by Health Care Access

Vermonters aged 50-64 were more than twice as likely to have reported having a colonoscopy in the past 10 years if they had health insurance than if they did not have health insurance.

Similarly, Vermonters aged 50-75 were more than twice as likely to have reported having a colonoscopy in the past 10 years if they had a primary care provider than if they did not.

**Colonoscopy in Past 10 Years: Ages 50-64
By Health Insurance Status**

68%

31%

Had Health Insurance   Did Not Have Health Insurance

**Colonoscopy in Past 10 Years: Ages 50-75
By Primary Care Provider**

72%

36%

Had a Primary Care Provider   Did Not Have a Primary Care Provider

Note: All rates are age adjusted to the 2000 U.S. standard population.

Data Notes

Behavioral Risk Factor Surveillance System (BRFSS): Vermont tracks risk behaviors using this telephone survey of adults. The results are used to plan, support, and evaluate health promotion and disease prevention programs. Since 1990, Vermont, along with the 49 other states and three territories, has participated in the BRFSS with the Centers for Disease Control and Prevention (CDC). Over 7,000 Vermonters are randomly and anonymously selected and called annually. An adult (18 or older) in the household is asked a uniform set of questions. The results are weighted to represent the adult population of the state.

Health Insurance: Comparisons between those with and without health insurance are always limited to those below age 65 since all Americans above age 65 are eligible for health insurance via Medicare.

Education: Comparisons among those with different levels of education are always limited to those aged 25 and older since many adults under age 25 are in the process of obtaining additional education.
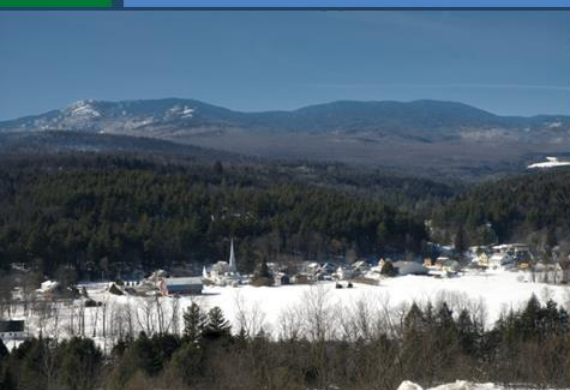
Federal poverty level (FPL) is a federal measure calculated from both annual household income and family size. FPL is used to determine eligibility for government assistance programs. People living below 250% FPL, for example, are still considered low income, often lacking sufficient income to meet basic needs.

Data Not Available: Indicates that the number of participants in this group is too small for estimates to be reliable.

Age Adjustment: Measures are adjusted for age only if they are Healthy Vermonters 2020 goals. Age adjustment groupings come from those determined by Healthy People 2020.

* Note on Cervical Cancer Guidelines: Analyses within this report about cervical cancer screening do not capture the alternate choice of co-testing, which includes an HPV and a Pap test every five years for women aged 30 to 65 years.

Cancer Data Pages: Cancer Prevalence and Health of Survivors

December 2014

Introduction

Cancer is a group of more than 100 different diseases that often develop gradually as the result of a complex mix of lifestyle, environment, and genetic factors. People are at higher risk for many cancers due to factors related to personal behaviors such as: tobacco use, alcohol use, diet, physical inactivity, and overexposure to sunlight. Cancer becomes more survivable when found and treated early, which can be accomplished through the use of available cancer screening tests including those for lung, breast, cervical, and colorectal cancers.

The purpose of this report is to present cancer-related data from the Behavioral Risk Factor Surveillance System (BRFSS) about survivorship, quality of life, associated disparities, known cancer-related risk factors, and co-morbidities.

Note: Throughout this report, data comparisons presented as "higher," "lower," "larger," "smaller," "better," "worse," or as "significantly different" are all considered statistically significant differences.

Cancer Survivor Demographics

Note: The definition, in this report, for both "cancer survivor" and "prevalence" includes those who have ever been diagnosed with cancer, excluding those whose only form of cancer was skin cancer.

Statewide and County Rates

In this report, a cancer survivor is defined as someone who has been diagnosed with cancer (other than skin cancer), from the time of diagnosis through the rest of his or her life. In this report, "cancer prevalence" and "survivorship" are used interchangeably, as the Behavioral Risk Factor Surveillance System (BRFSS) data represents both definitions.

In 2013, there were approximately 38,000 adult Vermonters, 7% of the population, who reported they had ever been diagnosed with cancer.

Adult Cancer Survivors (Prevalence)
Estimated Number by County

FRANKLIN 2,400
ORLEANS 2,100
ESSEX 300
GRAND ISLE 400
LAMOILLE 1,400
CHITTENDEN 6,700
CALEDONIA 1,500
WASHINGTON 3,500
ADDISON 1,800
ORANGE 1,600
RUTLAND 3,500
WINDSOR 3,300
BENNINGTON 3,000
WINDHAM 2,700

Note: The number in each county, shown in the map, is the average number of cancer survivors (using data from 2012 and 2013).

Sex and Age

Cancer survivorship (prevalence) increases with age. With each increase in age group, there was an increase in the percentage of Vermonters that reported ever having been diagnosed with cancer. In addition, a higher percentage of women (8%) reported being cancer survivors compared to men (6%).

When broken down by age and sex, some interesting differences can be seen. A higher percentage of women reported being a cancer survivor than men among those aged 18 to 54 years. A similar rate of men and women, however, reported being a cancer survivor among those aged 55 years and over.

Cancer Survivorship (Men and Women)
By Age

18-44	45-54	55-64	65-74	75+
2%	6%	9%	14%	21%
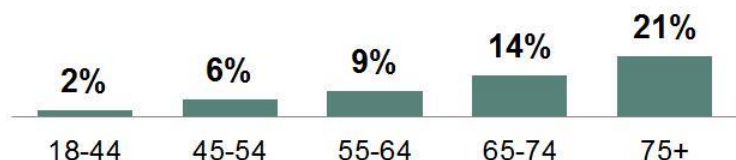
Cancer Survivorship
By Age and Sex

■ Men ■ Women

18-44	45-54	55-64	65-74	75+
1% 3%	4% 8%	7% 10%	14% 14%	21% 20%
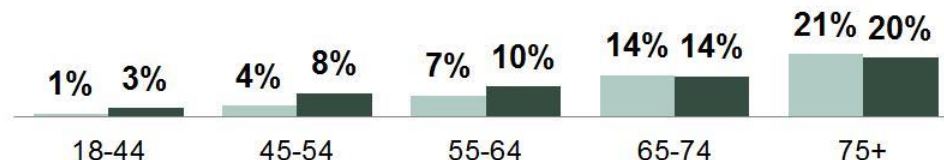
# Education, Federal Poverty Level, and Racial and Ethnic Minorities

Similar percentages of Vermont adults (aged 25 and older) reported they had ever been diagnosed with cancer when comparing educational attainment levels.

In addition, there were no differences in the percentage of cancer survivors (aged 18 and older) when comparing those above and below 250% of the federal poverty level.

A similar percentage of adult racial and ethnic minorities reported being cancer survivors compared to adult white non-Hispanics in VT (data not shown).

Cancer Survivorship: Ages 25+ By Educational Attainment

8%	8%	7%
High School or Less	Some College	College Graduate
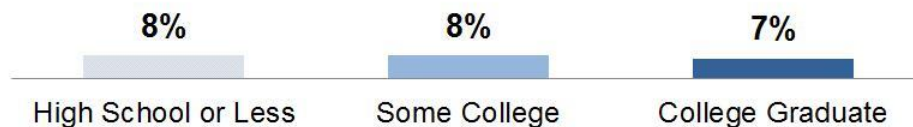
Cancer Survivorship: Ages 18+ By Federal Poverty Level

8%	7%
< 250%	≥ 250%

Note: Federal poverty level (FPL) is a federal measure calculated from both annual household income and family size. FPL is used to determine eligibility for government assistance programs. People living below 250% FPL, for example, are still considered low income, often lacking sufficient income to meet basic needs.

Health Disparities between Cancer Survivors and Those Never Diagnosed with Cancer

In this section, comparisons are made between Vermont adults with and without cancer for a variety of risk factors, health measures, and other chronic diseases. Due to the nature of the BRFSS survey methodology, any differences do not indicate a cause-and-effect relationship. It is not possible to know if the risk factor, health status, or other chronic disease preceded the cancer diagnosis or whether the factor in question caused or was a result of having cancer.

For example, the obesity rate is compared for Vermont adults with and without cancer. A higher percentage of people with cancer reported being obese compared to people without cancer. There is an association between obesity and cancer. We are unable to tell whether people surveyed were obese at the time of cancer diagnosis or developed obesity after being diagnosed with cancer. Therefore, we are unable to determine if the obesity caused the cancer, the cancer caused the obesity, or even if there is any causal relationship between these two things.
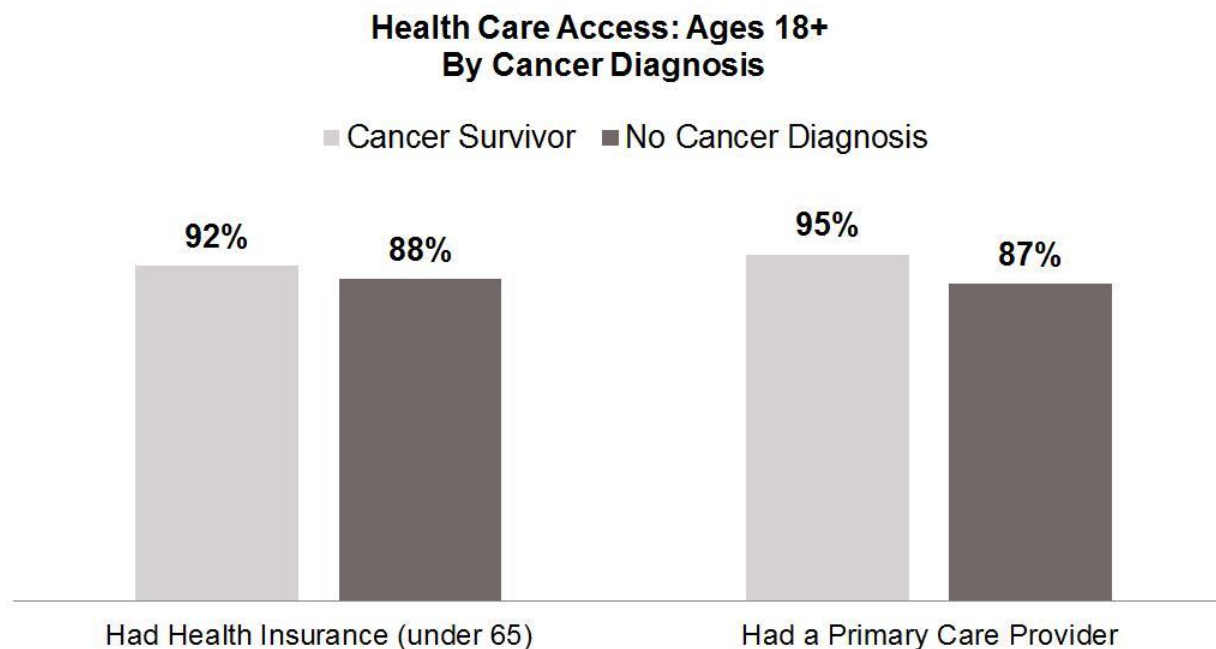
Phrases such as "more likely," "twice as likely," and "three times as likely" are used to describe the strength of an association. For example, cancer survivors were more likely to have reported being diagnosed with cardiovascular disease than those without cancer. This means that, among people with cancer, the rate of cardiovascular disease is higher than the rate of cardiovascular disease among people without cancer. A cause-and-effect relationship cannot be determined.

Note: The definition, in this report, for both cancer survivor and prevalence includes those who have ever been diagnosed with cancer, excluding those whose only form of cancer was skin cancer.

Health Care Access

Overall, adult Vermont cancer survivors (under age 65) reported having health insurance at a similar rate compared to those never diagnosed with cancer.

Cancer survivors were more likely to have reported having a primary care provider than those never diagnosed with cancer. However, when broken down by age group, only cancer survivors aged 55-64 were significantly more likely to have reported having a primary care provider than those never diagnosed with cancer (data not shown).

Health Care Access: Ages 18+
By Cancer Diagnosis

■ Cancer Survivor   ■ No Cancer Diagnosis

92%   88%   95%   87%

Had Health Insurance (under 65)   Had a Primary Care Provider

Tobacco and Quit Attempts

In cancer survivors, smoking increases the risk of a tobacco-associated second primary cancer. Smoking has also been shown to increase cancer-specific mortality and all-cause mortality among cancer survivors.

Adult cancer survivors in Vermont reported being current smokers at a higher rate (31%) than those Vermont adults who never had a cancer diagnosis (17%). A similar percentage of cancer survivors who smoke reported recently trying to quit (54%) as those smokers never diagnosed with cancer (59%).

**Smoking Rate (Ages 18+)
By Cancer Diagnosis**
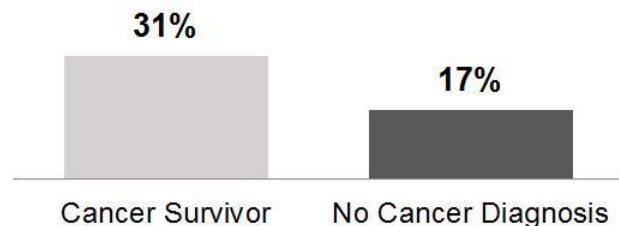
**Percent of Smokers Who Made
a Recent Quit Attempt
(Ages 18+)
By Cancer Diagnosis**

31%

17%

Cancer Survivor   No Cancer Diagnosis

54%

59%

Cancer Survivor   No Cancer Diagnosis
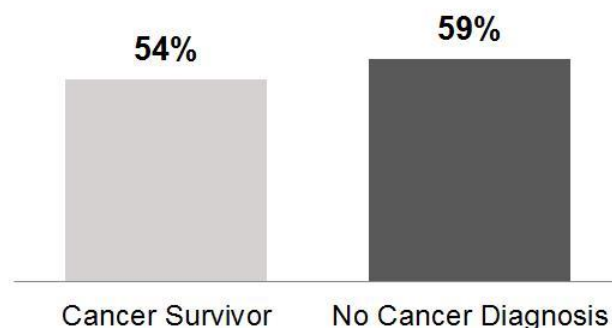
Note: All rates are age adjusted to the 2000 U.S. standard population.

Tobacco by Age

When broken down by age group, the only age group with a difference in smoking status between cancer survivors and those never diagnosed with cancer were those aged 18-44, where cancer survivors had a higher prevalence of smoking than those without a cancer diagnosis.

**Current Smokers
By Cancer Diagnosis and Age**

■ Cancer Survivor   ■ No Cancer Diagnosis

Age	Cancer Survivor	No Cancer Diagnosis
18-44	45%	21%
45-54	20%	20%
55-64	16%	13%
65-74	7%	9%
75+	3%	4%
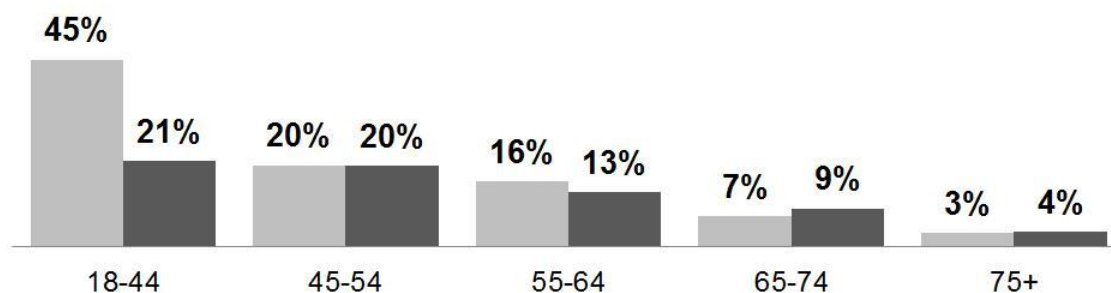
Heavy Drinking by Age

Adult cancer survivors in Vermont are no more likely to drink heavily (defined as an average of more than two drinks per day for men and more than one drink per day for women) than those never diagnosed with cancer at any age.
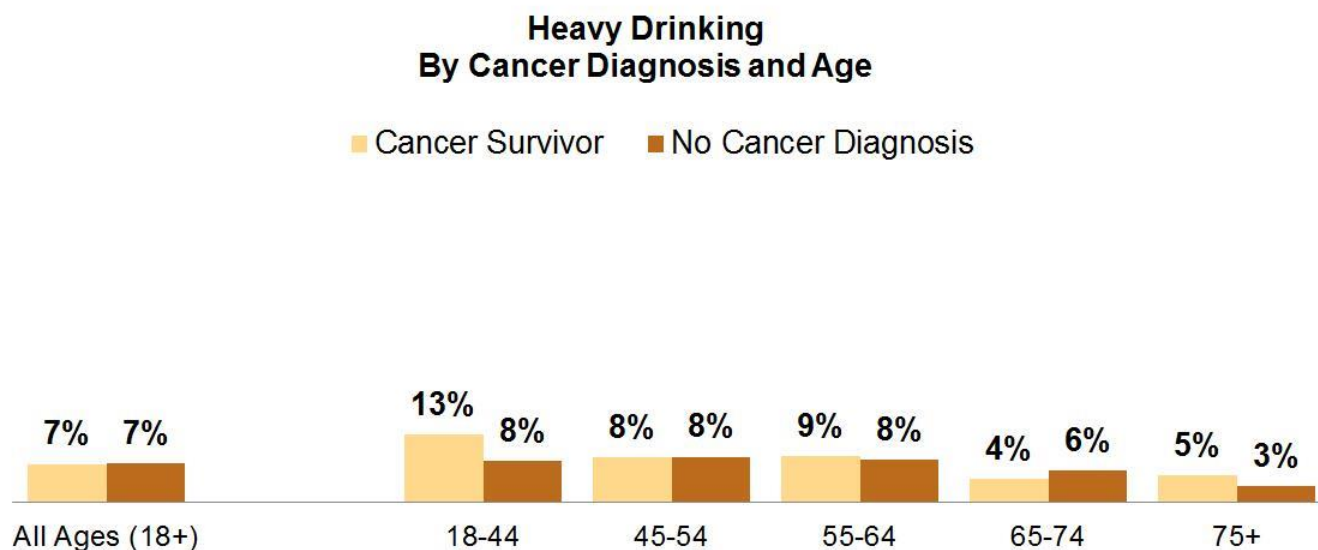
**Heavy Drinking
By Cancer Diagnosis and Age**

■ Cancer Survivor   ■ No Cancer Diagnosis

	All Ages (18+)	18-44	45-54	55-64	65-74	75+
Cancer Survivor	7%	13%	8%	9%	4%	5%
No Cancer Diagnosis	7%	8%	8%	8%	6%	3%

Obesity, Poor Nutrition and Lack of Physical Activity

Among Vermonters 20 years of age and older, a higher percentage of cancer survivors (34%) reported being obese compared to those never diagnosed with cancer (24%).

There were no differences between adult Vermont cancer survivors and those never diagnosed with cancer in the percentage eating fewer than five servings of fruits and vegetables daily. There was also no difference in the percentage failing to meet aerobic physical activity recommendations.
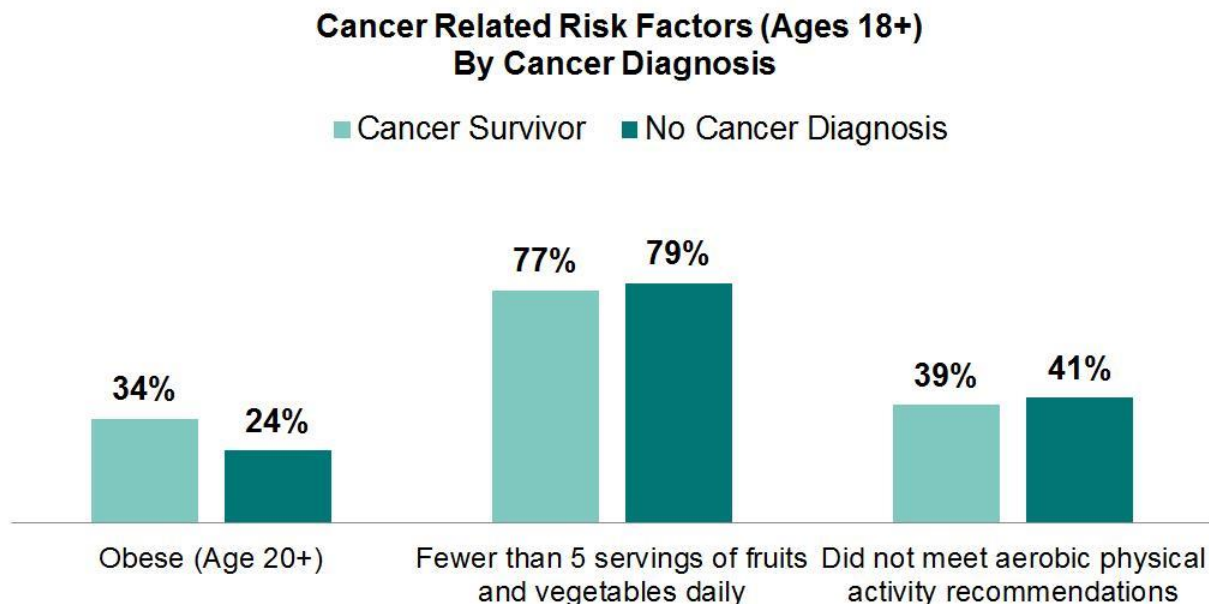
**Cancer Related Risk Factors (Ages 18+)
By Cancer Diagnosis**

■ Cancer Survivor   ■ No Cancer Diagnosis

34% 24%	77% 79%	39% 41%
Obese (Age 20+)	Fewer than 5 servings of fruits and vegetables daily	Did not meet aerobic physical activity recommendations

Notes: All rates are age adjusted to the 2000 U.S. standard population.
Obesity rates include adults, age 20 and over, with a Body Mass Index (BMI) classified as obese (BMI of 30+)
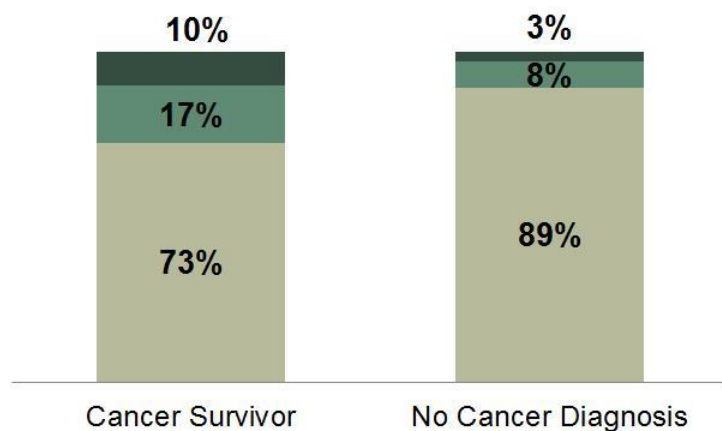
Quality of Life

A smaller percentage of adult Vermont cancer survivors reported their general health as good to excellent (73%), compared to Vermont adults who had never been diagnosed with cancer (89%). In addition, adult cancer survivors reported their general health as poor or fair at a higher rate (10% poor, 17% fair) than adults who had never been diagnosed with cancer (3% poor, 8% fair).

Adult Vermont cancer survivors reported always or usually receiving emotional support (73%) at a lower rate compared to Vermont adults who had never been diagnosed with cancer (80%). Cancer survivors and those never diagnosed with cancer reported sometimes receiving emotional support at similar rates. However, cancer survivors reported rarely or never receiving emotional support (17%) at a higher rate than Vermont adults never diagnosed with cancer (9%).
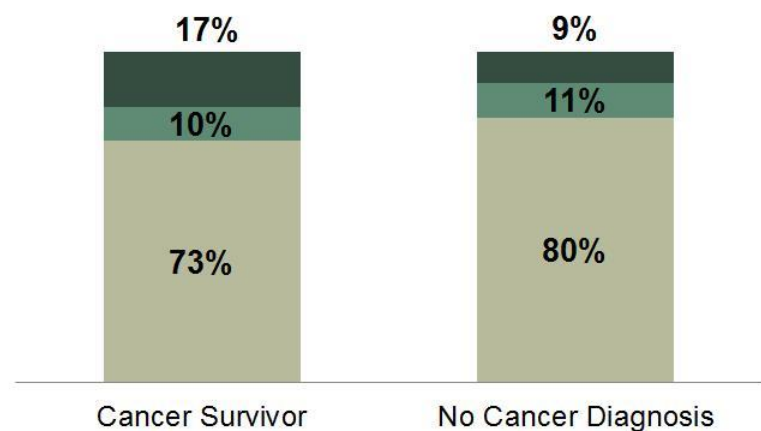
General Health: Ages 18+
By Cancer Diagnosis

■ Poor ■ Fair ■ Good to Excellent

10%	3%
	8%
17%	
73%	89%
Cancer Survivor	No Cancer Diagnosis

Emotional Support: Ages 18+
By Cancer Diagnosis

■ Rarely or Never ■ Sometimes ■ Always or Usually

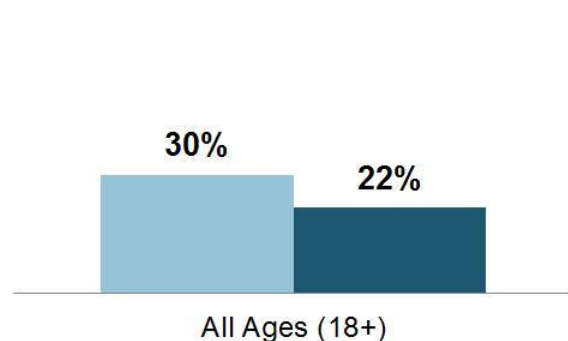|	
17%	9%
	11%
10%	
73%	80%
Cancer Survivor	No Cancer Diagnosis

Quality of Life: Depression by Age

Compared to all adult Vermonters who had never been diagnosed with cancer, a greater percentage of all adult Vermont cancer survivors reported having been diagnosed with depression.

When broken down by age, a greater percentage of Vermont cancer survivors ages 18-54 reported having ever been diagnosed with depression than those never diagnosed with cancer. Vermonters aged 18-44 who had ever been diagnosed with cancer were more than 2.5 times more likely to have reported having been diagnosed with depression than those never diagnosed with cancer.

There were no differences in rates of depression between cancer survivors and those never diagnosed with cancer ages 55 and above.
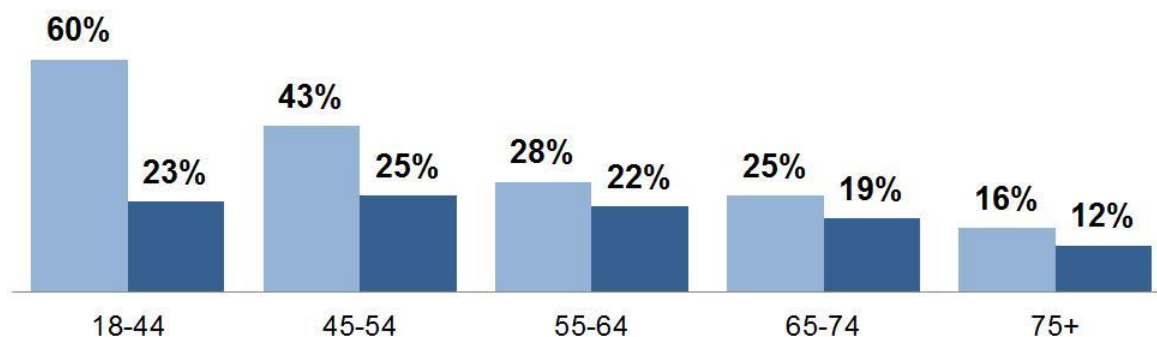
Depression: Ages 18+
By Cancer Diagnosis

■ Cancer Survivor ■ No Cancer Diagnosis

Depression
By Cancer Diagnosis and Age

■ Cancer Survivor ■ No Cancer Diagnosis

30% 22%

All Ages (18+)

60% 23% 43% 25% 28% 22% 25% 19% 16% 12%

18-44   45-54   55-64   65-74   75+
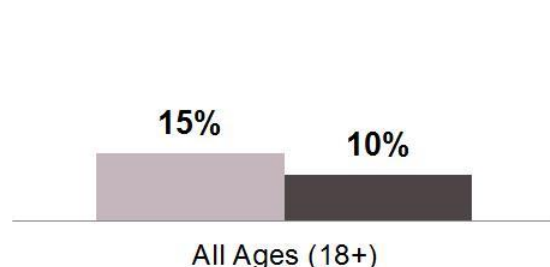
Quality of Life: Mental Health by Age

A higher percentage of cancer survivors reported poor mental health on 14 or more days during the past month than did individuals never diagnosed with cancer.

When broken down by age, a greater percentage of Vermont cancer survivors ages 18-64 reported having poor mental health on at least 14 days of the previous month than those never diagnosed with cancer. Vermonters aged 18-44 who had ever been diagnosed with cancer were more than three times as likely to have reported poor mental health in at least 14 days of the past month than those never diagnosed with cancer. Vermonters aged 45-54 were more than twice as likely to have reported poor mental health on at least 14 days of the past month compared to those never diagnosed with cancer.

There were no differences in reported rates of poor mental health between cancer survivors and those never diagnosed with cancer ages 65 and above.

Poor Mental Health: Ages 18+
By Cancer Diagnosis

■ Cancer Survivor ■ No Cancer Diagnosis

15%   10%

All Ages (18+)

Poor Mental Health
By Cancer Diagnosis and Age

■ Cancer Survivor ■ No Cancer Diagnosis

36%	26%	17%	6%	4%
12%	12%	9%	7%	5%
18-44	45-54	55-64	65-74	75+
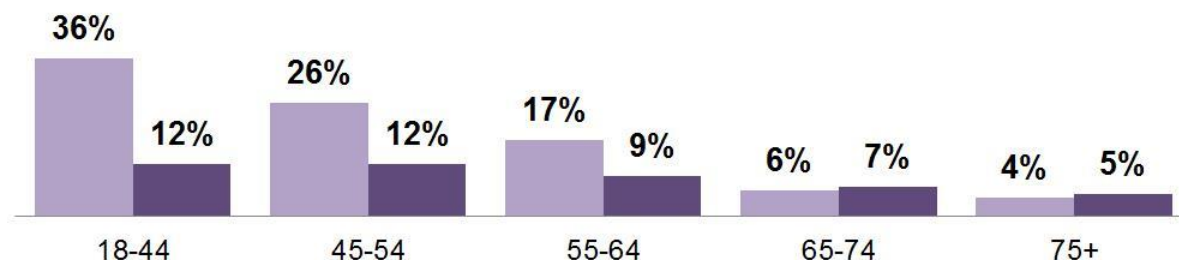
Quality of Life: Physical Health by Age

Overall, a larger percentage of Vermont cancer survivors experienced poor physical health on at least 14 days of the last month than did those Vermonters never diagnosed with cancer.

When broken down by age, a larger percentage of Vermont cancer survivors in all age groups reported having poor physical health on at least 14 days of the previous month than those never diagnosed with cancer. Vermonters aged 18-54 who had ever been diagnosed with cancer were more than twice as likely to have reported poor physical health in at least 14 days of the past month than those never diagnosed with cancer.
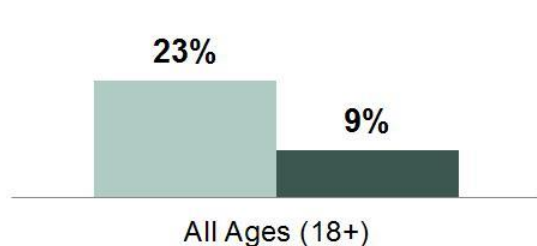
Poor Physical Health: Ages 18+
By Cancer Diagnosis

■ Cancer Survivor ■ No Cancer Diagnosis

23%

9%

All Ages (18+)

Poor Physical Health
By Cancer Diagnosis and Age

■ Cancer Survivor ■ No Cancer Diagnosis

19%	28%	26%	19%	25%
6%	10%	13%	11%	16%
18-44	45-54	55-64	65-74	75+
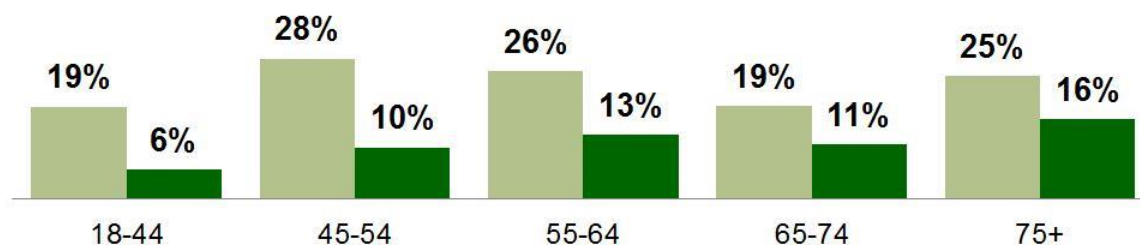
Quality of Life: Cognitive Decline

Vermonters were asked "In the past 12 months, have you experienced confusion or memory loss that is happening more often or is getting worse?" Those who were cancer survivors were more than twice as likely to report experiencing cognitive decline than those who were never diagnosed with cancer.

When divided into age groups those cancer survivors aged 18-44 reported cognitive decline at more than three times the rate of those never diagnosed with cancer. Among those aged 45-54 and 65-74, cancer survivors were more likely to report cognitive decline than those never diagnosed with cancer. Among those aged 55-64 and those 75 and older, cancer survivors and those never diagnosed with cancer were equally likely to report cognitive decline.

**Cognitive Impairment
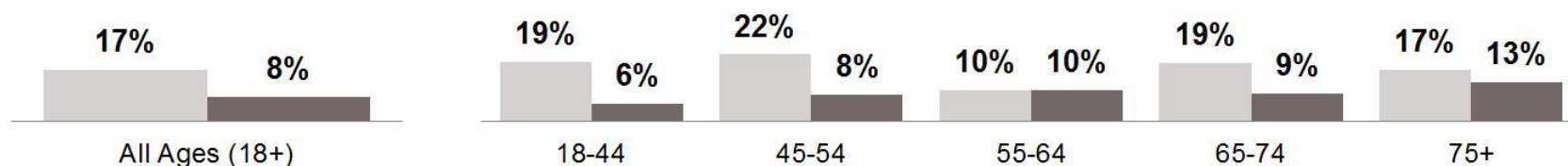By Cancer Diagnosis**

■ Cancer Survivor
■ No Cancer Diagnosis

**Cognitive Impairment
By Cancer Diagnosis and Age**

■ Cancer Survivor ■ No Cancer Diagnosis

17%
8%

All Ages (18+)

19%
6%

22%
8%

10% 10%

19%
9%

17%
13%

18-44   45-54   55-64   65-74   75+

Co-Morbidities

Some adult Vermont cancer survivors reported being diagnosed with additional chronic disease (co-morbidities).
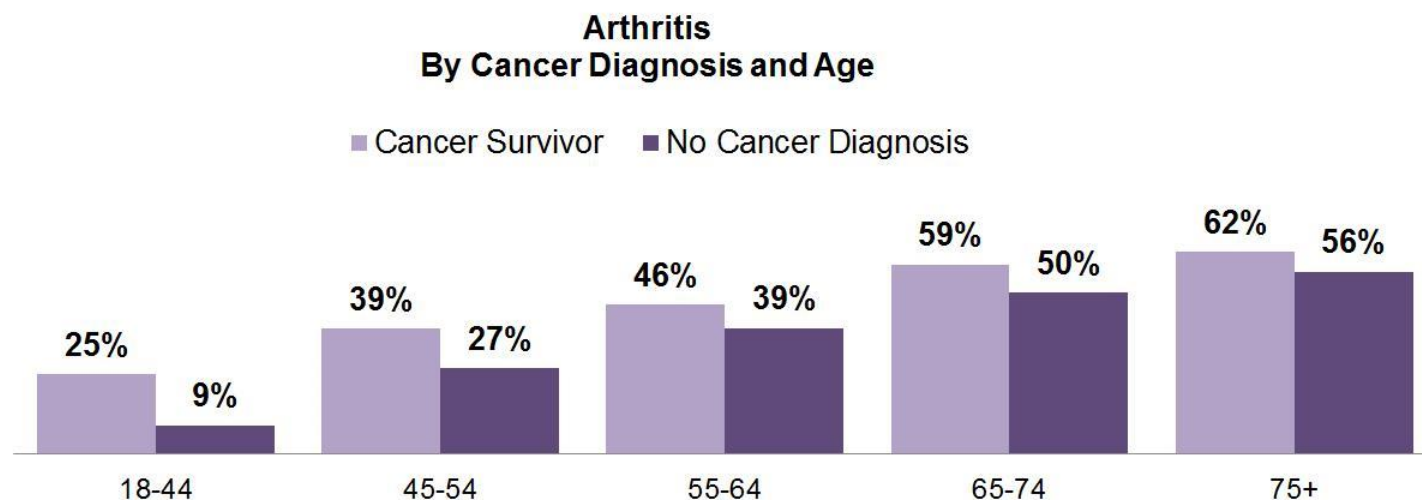
Among adult Vermont cancer survivors, chronic obstructive pulmonary disease (COPD), diabetes and cardiovascular disease were reported at more than twice the rate as among those adult Vermonters never diagnosed with cancer. Additionally, the prevalence of arthritis was higher among those Vermonters diagnosed with cancer compared to those never diagnosed with cancer. There was no difference in the prevalence of asthma among adult Vermonters with a cancer diagnosis compared to those never diagnosed with cancer.

**Co-Morbidities (Ages 18+)
By Cancer Diagnosis**

■ Cancer Survivor   ■ No Cancer Diagnosis

	Arthritis	Asthma	Diabetes	Cardiovascular Disease	COPD
Cancer Survivor	49%	13%	15%	18%	14%
No Cancer Diagnosis	26%	11%	7%	7%	5%
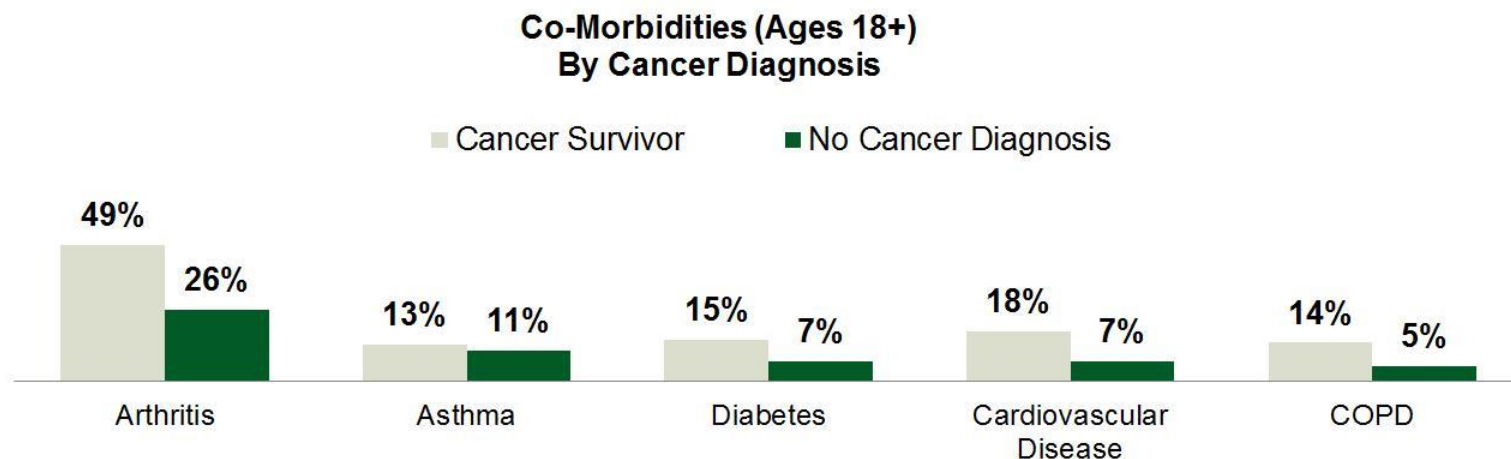
Arthritis by Age

Cancer survivors aged 18-54 were more likely to have reported an arthritis diagnosis than those aged 18-54 who never had a cancer diagnosis.

However, among Vermonters 55 and older, there were no differences in the rates of arthritis between cancer survivors and those never diagnosed with cancer.

Arthritis
By Cancer Diagnosis and Age

■ Cancer Survivor   ■ No Cancer Diagnosis

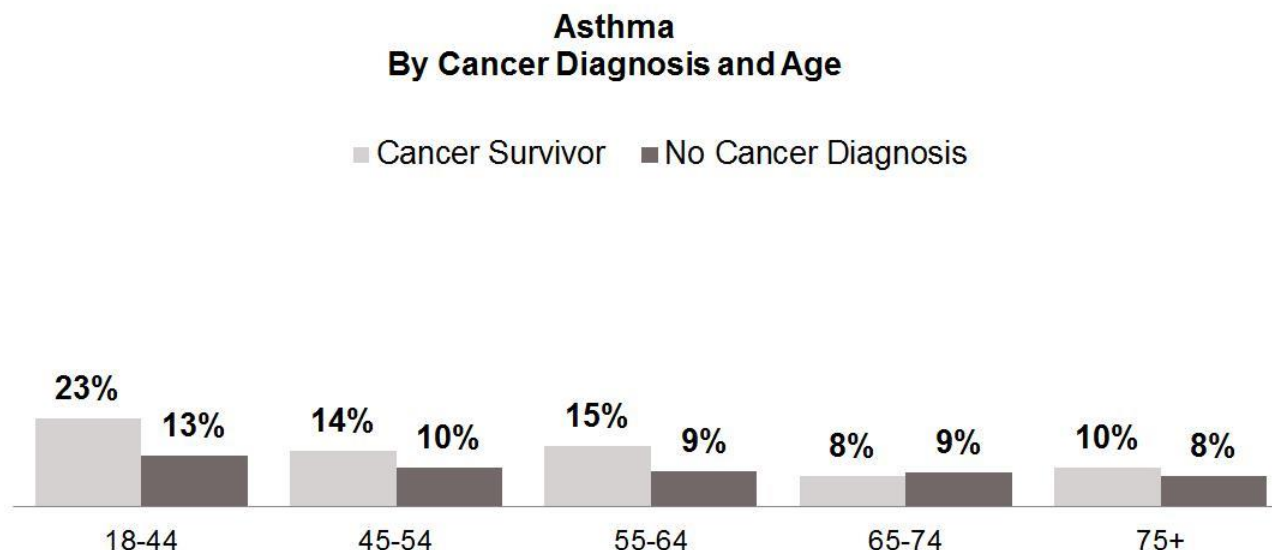| Age	Cancer Survivor	No Cancer Diagnosis
18-44	25%	9%
45-54	39%	27%
55-64	46%	39%
65-74	59%	50%
75+	62%	56%

Asthma by Age

Among Vermonters aged 55-64, more cancer survivors had asthma than those never diagnosed with cancer.

Vermonters aged 18-54 were no more likely to have reported having asthma if they had been diagnosed with cancer than those not diagnosed with cancer.

Vermonters 65 and older were no more likely to have reported having asthma if they had been diagnosed with cancer than those not diagnosed with cancer.

**Asthma
By Cancer Diagnosis and Age**
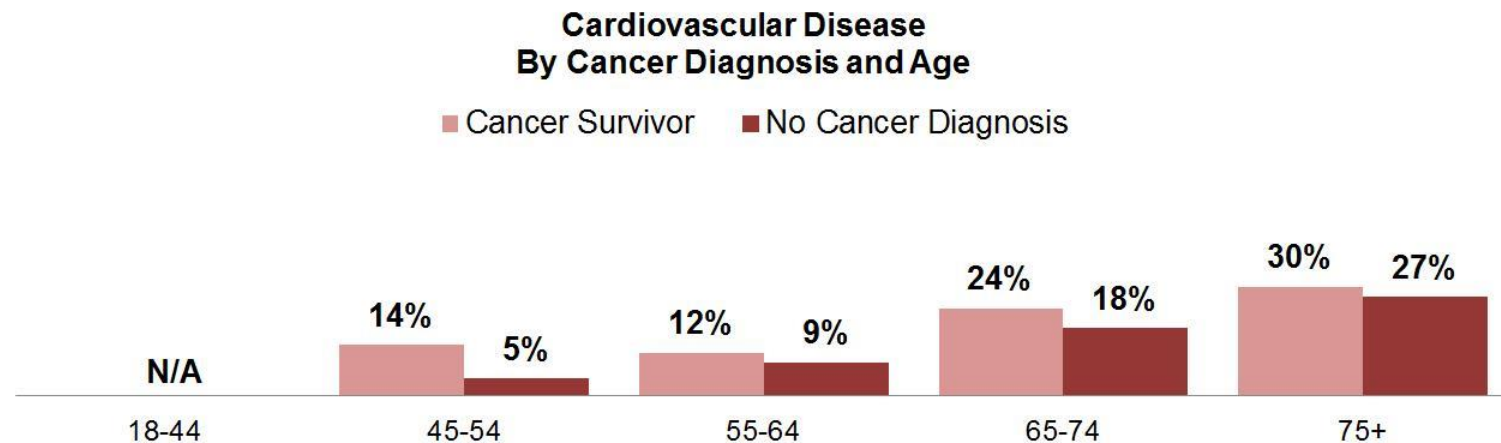
■ Cancer Survivor ■ No Cancer Diagnosis

Age	Cancer Survivor	No Cancer Diagnosis
18-44	23%	13%
45-54	14%	10%
55-64	15%	9%
65-74	8%	9%
75+	10%	8%

Cardiovascular Disease by Age

Cancer survivors aged 45-54 were more than twice as likely to have reported being diagnosed with cardiovascular disease than those aged 45-54 who never had a cancer diagnosis.

However, among Vermonters 55 and older, there were no differences in the rates of cardiovascular disease between cancer survivors and those never diagnosed with cancer.
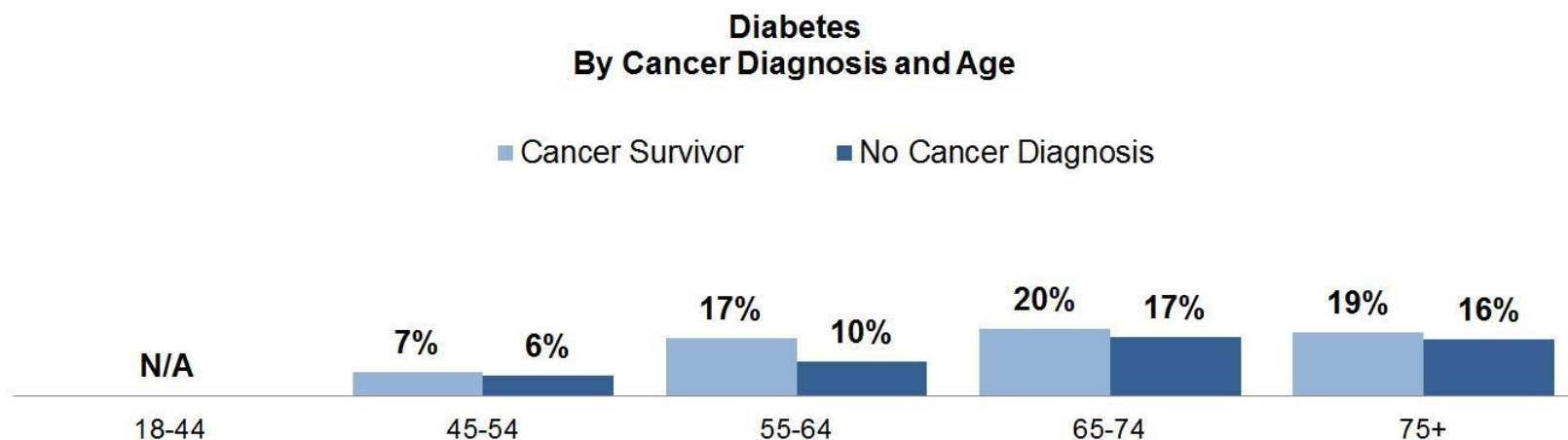
**Cardiovascular Disease
By Cancer Diagnosis and Age**

■ Cancer Survivor   ■ No Cancer Diagnosis

Age	Cancer Survivor	No Cancer Diagnosis
18-44	N/A	
45-54	14%	5%
55-64	12%	9%
65-74	24%	18%
75+	30%	27%

Note: N/A - The number of respondents in the sample is too small to report.

Diabetes by Age

Among Vermonters aged 55-64, a higher percentage of cancer survivors have been diagnosed with diabetes than those not diagnosed with cancer.

There were no differences among Vermonters in any other age group in the prevalence of diabetes between cancer survivors and those never diagnosed with cancer.
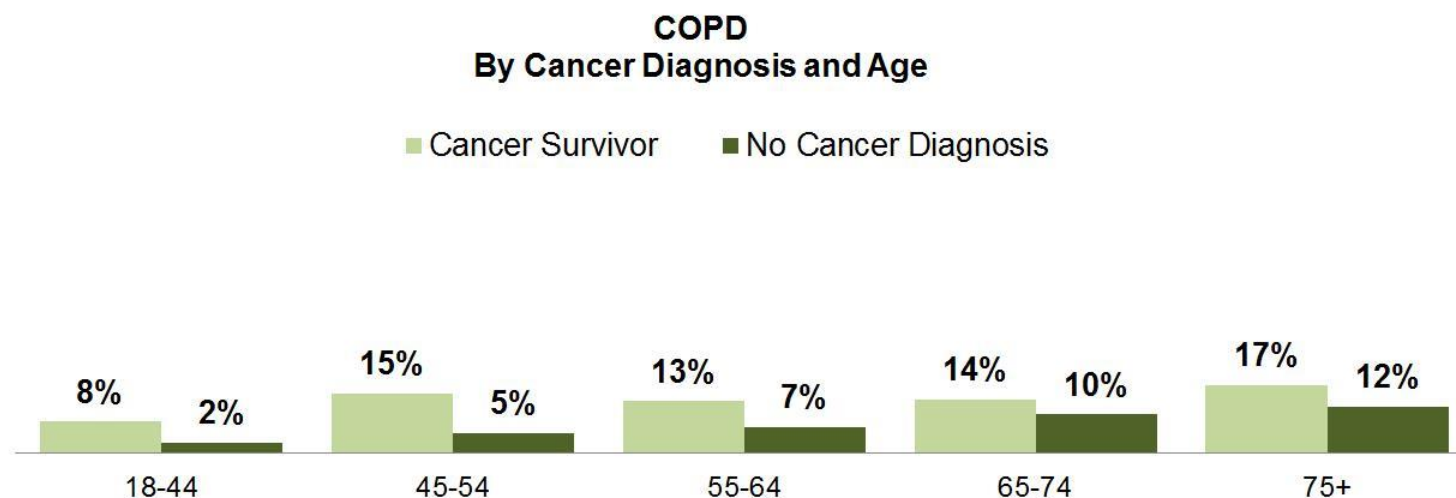
**Diabetes
By Cancer Diagnosis and Age**

■ Cancer Survivor   ■ No Cancer Diagnosis

Age	Cancer Survivor	No Cancer Diagnosis
18-44	N/A	
45-54	7%	6%
55-64	17%	10%
65-74	20%	17%
75+	19%	16%

Note: N/A - The number of respondents in the sample is too small to report.

Chronic Obstructive Pulmonary Disease (COPD) by Age

Vermont cancer survivors aged 45-64 were more likely to have reported diagnosis of COPD than those not diagnosed with cancer.

There were no differences among Vermonters in any other age group in the prevalence of COPD between cancer survivors and those never diagnosed with cancer.

**COPD
By Cancer Diagnosis and Age**

■ Cancer Survivor   ■ No Cancer Diagnosis

Age	Cancer Survivor	No Cancer Diagnosis
18-44	8%	2%
45-54	15%	5%
55-64	13%	7%
65-74	14%	10%
75+	17%	12%

Data Notes

Behavioral Risk Factor Surveillance System (BRFSS): Vermont tracks risk behaviors using this telephone survey of adults. The results are used to plan, support, and evaluate health promotion and disease prevention programs. Since 1990, Vermont, along with the 49 other states and three territories, has participated in the BRFSS with the Centers for Disease Control and Prevention (CDC). Over 7,000 Vermonters are randomly and anonymously selected and called annually. An adult (18 or older) in the household is asked a uniform set of questions. The results are weighted to represent the adult population of the state.

Health Insurance: Comparisons between those with and without health insurance are always limited to those below age 65 since all Americans above age 65 are eligible for health insurance via Medicare.

Education: Comparisons among those with different levels of education are always limited to those aged 25 and older since many adults under age 25 are in the process of obtaining additional education.

Federal poverty level (FPL) is a federal measure calculated from both annual household income and family size. FPL is used to determine eligibility for government assistance programs. People living below 250% FPL, for example, are still considered low income, often lacking sufficient income to meet basic needs.

Age Adjustment: Measures are adjusted for age only if they are Healthy Vermonters 2020 goals. Age adjustment groupings come from those determined by Healthy People 2020.

Contact Information

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